

**ASSESSMENT OF NUTRITIONAL KNOWLEDGE, ATTITUDE, AND PERCEPTION
TOWARDS PCOS (POLYCYSTIC OVARIAN SYNDROME) AMONG HOSTEL GIRLS
OF SATHYABAMA INSTITUTE OF SCIENCE & TECHNOLOGY**

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Science degree in Clinical Nutrition and Dietetics

by
S. SAAJIDA PARVEEN (40736007)



**DEPARTMENT OF CLINICAL NUTRITION AND DIETETICS
SCHOOL OF ALLIED HEALTH SCIENCES**

SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited with Grade "A" by NAAC
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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the Bonafide work of **S.Saajida Parveen (40736007)** who had carried out The project "**Assessment of Nutritional Knowledge, Attitude, And Perception Towards PCOS (polycystic ovarian syndrome) Among Hostel Girls Of Sathyabama Institute Of Science & Technology**" under supervision of **MS. Kanya** From **June 2022** to **May 2023**

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DECLARATION

I **S. SAAJIDA PARVEEN (40736007)** hereby declare that the Project Report entitled **DETERMINING THE ANEMIA LEVEL AND IT'S ASSOCIATION WITH BMI AMONG THE UNDERGRADUATE FEMALE STUDENTS BELONGING TO THE SCHOOL OF ALLIED HEALTH SCIENCES** done by me under the guidance of **MS. S. KANYA** is submitted in partial fulfillment of the requirements for the award of **Bachelor of Science Degree in Clinical Nutrition and Dietetics**

DATE: 12-05-2023

PLACE: CHENNAI



SIGNATURE OF THE CANDIDATE

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ABSTRACT

Polycystic Ovary Syndrome (PCOS) is a common hormonal disorder in women, which affects various aspects of their health, including their nutrition. This study aims to assess the nutritional knowledge, attitude, and perception of 19-23 years old women about PCOS. A cross-sectional survey was conducted among hostel women about PCOS who are residing in hostel at Sathyabama Institute of Science & Technology. The study used a structured questionnaire with sections: (1) knowledge about PCOS and its association with nutrition, (2) attitude towards dietary modifications, and (3) perception of the role of nutrition in the management of PCOS. The questionnaire was distributed to the study population and all the information were collected from them by letting them know the purpose of the study. After collecting the data appropriate nutrition education was given to the study population. The data were analyzed using functions of excel and percentage was found. The results showed that the overall nutritional knowledge of women about PCOS was moderate. In this study we have found, among 65 samples 70% subjects don't know the symptoms of PCOS, 50% subjects think PCOS cannot be managed through diet and exercise, 81% subjects think PCOS diet may not be dairy free and gluten free, 81% subjects think that carbohydrate must be avoided in PCOS diet, 69% subjects know PCOS do not lead to infertility, 72% subjects are unaware about seed cycling and 66% subjects think keto diet is necessary for PCOS condition. In conclusion, women have moderate nutritional knowledge, positive attitudes towards dietary modifications, and perception of the role of nutrition in the management of PCOS. Therefore this study is indicating a need for targeted nutrition education and counselling programs for girls about PCOS.

CHAPTER- 1

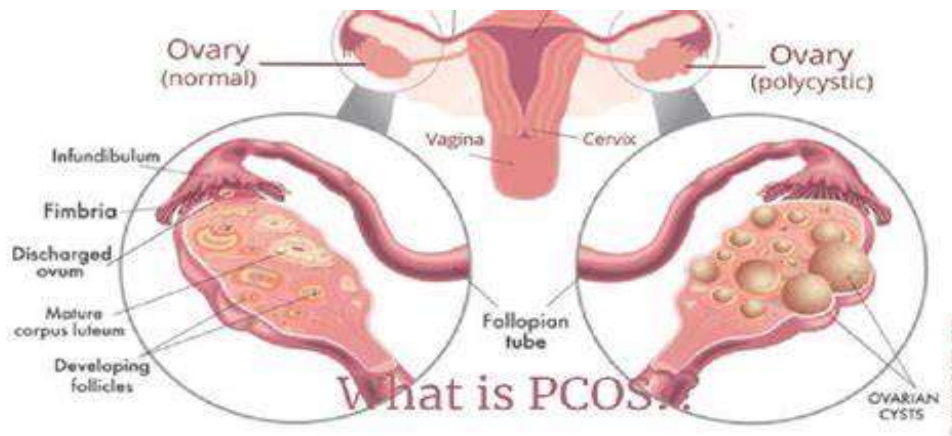
INTRODUCTION

Adolescent period is a unique period where there is a change from childhood to adulthood, a time of physiological, psychological, social and emotional adaptation. During this period individual attains physical and sexual maturity, whereas emotional maturity will be imbalanced. The changes in adolescent period have important implications to understand the health risks associated with this syndrome. During this period, the body changes and there will be development of secondary sex characteristics. Any difference of secondary sex characteristics can inversely affect the physical and emotional adaptation of the adolescent. (Sunanda et al.,2016)

Polycystic ovary syndrome (PCOS) is one of the most common endocrine and metabolic disorders in premenopausal women. Heterogeneous by nature, PCOS is defined by a combination of signs and symptoms of androgen excess and ovarian dysfunction in the absence of other specific diagnoses. The etiology of this syndrome remains largely unknown, but mounting evidence suggests that PCOS might be a complex multigenic disorder with strong epigenetic and environmental influences, including diet and lifestyle factors. PCOS is frequently associated with abdominal adiposity, insulin resistance, obesity, metabolic disorders and cardiovascular risk factors. The diagnosis and treatment of PCOS are not complicated, requiring only the judicious application of a few well-standardized diagnostic methods and

appropriate therapeutic approaches addressing hyperandrogenism, the consequences of ovarian dysfunction and the associated metabolic disorders. This article aims to provide a balanced review of the latest advances and current limitations in our knowledge about PCOS while also providing a few clear and simple principles, based on current evidence-based clinical guidelines, for the proper diagnosis and long-term clinical management of women with PCOS. (Mohamed, H.A. 2016)

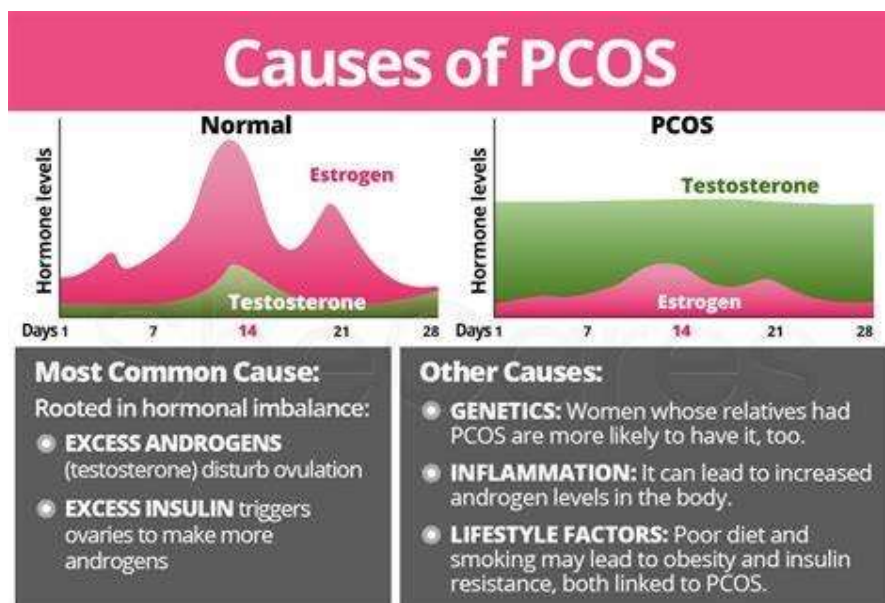
FIG: 1.1 Pictorial representation of ovaries affected with PCOS



Polycystic ovarian syndrome is a condition in which woman has an imbalance of female sex hormones. This may lead to changes in the menstrual cycle, cyst in the ovary, failure to conceive and other health problems. It is a common health problem among teenagers and young women. It affects 5% to 10% of women in their reproductive years. These problems cause infertility. Although there is no cure for PCOS, there are several ways to treat and manage the condition. If a girl is overweight, Weight loss can be very effective in lessening many of the health conditions associated with PCOS. Sometimes weight loss alone can restore hormone level to normal, causes many of the symptoms to disappear or become less severe. Healthy food habits and exercise helps to combat the weight gain (Haq et al.,2017)

Research has suggested that PCOS may be related to increased insulin production. PCOS seems to run in families, too, so if someone in the family has it, they might be more likely to develop it. India has witnessed about 30% rise in polycystic ovarian syndrome (PCOS) cases in the last couple of years. Lack of knowledge and lifestyle changes are considered to be the major factor leading to this phenomenon. There is a need to increase awareness among women so as to avoid major cases of fertility problems in the future. A Nurse holds a critical role in health care that goes beyond the day-to-day duties. Nurses are in a position to provide comprehensive care to adolescent afflicted with the syndrome. (Abu-Taha M et al.,2020)

FIGURE:1.2 PICTORIAL REPRESENTATION OF CAUSES OF PCOS



The symptoms of PCOS tend to run in families, the syndrome is probably caused, at least in part, by a change, or mutation, in one or more genes. Recent research conducted in animal models suggests that in some cases PCOS may be caused by genetic or chemical changes that occur in the womb. PCOS likely results from a combination of causes, including genes and environmental factors. (Rao M et al.,2020)

The ovaries produce hormones, which are chemicals that control functions in the body. One of the hormones that the ovaries make is oestrogen—sometimes called the "female hormone" because women's bodies make more of it than men's bodies do. The ovaries also make

androgens—sometimes called "male hormones" because men's bodies make more of them than women's bodies do. Men and women need certain levels of both hormones for normal health. (Aniliids et al.,2009)

In women with PCOS, the hormones are out of balance: these women have higher-than-normal levels of androgens and may have lower-than-normal levels of oestrogen. High levels of androgens can:

- Interfere with signals from the brain that normally result in ovulation, so that ovulation does not occur regularly
- Cause the follicles—small, fluid-filled sacs within the ovaries in which eggs grow and mature—to stop developing, causing them to enlarge.
- Produce other symptoms of PCOS, including excess hair growth and acne.

Other symptoms of PCOS result from problems with insulin, another of the body's hormones. Insulin helps move sugar (also called glucose) from the bloodstream into cells to use as energy. When cells don't respond normally to insulin, the level of sugar in the blood rises. In addition, the level of insulin goes up as the body produces more and more of it to try to get glucose into the cells. Too much insulin increases the production of androgens,⁵ which then cause symptoms of PCOS. High levels of insulin can also increase appetite and lead to weight gain.³ High insulin levels are also linked to a skin condition called acanthosis nigricans, which results in thickened dark, velvety patches of skin. (Tahir Maria 2017)

1.1 CONSEQUENCE

A diagnosis of PCOS carries lifelong implications for a woman's health and well-being. The diagnosis implies an increased risk of metabolic diseases, cardiovascular disease, cancer, infertility and pregnancy complications for the woman and her relatives and offspring. However, the fundamental question of whether the PCOS phenotype per se carries increased risk, or whether PCOS is an epiphenomenon linked to the true pathologies of obesity, diabetes and hypertension, remains unresolved.(Sunanda B. et .,al 2016)

1.2 ASSOCIATION BETWEEN MAJOR DIETARY PATTERN AND POLYCYSTIC OVARIAN SYNDROME

Polycystic ovary syndrome (PCOS) is a multifactorial endocrine disorder in women. Change in lifestyle, especially dietary pattern, might have a role in the prevalence of PCOS. The limited number of studies has made it difficult to draw any conclusion about the relationship of dietary

patterns with PCOS. This study aimed to investigate the association between dietary patterns and PCOS. A case-control study was performed on 225 patients newly diagnosed with PCOS and 345 healthy women in Isfahan, Iran. The presence of PCOS was confirmed by expert gynaecologists based on Rotterdam criteria. Usual dietary intake was assessed by a 168-item food frequency questionnaire. Dietary patterns were identified by principal component analysis. Three major dietary patterns including Western, plant-based, and mixed were identified that explained 53.93% of the variance in food intake. The top tertial of the Western dietary pattern significantly increased the odds of PCOS (odds ratio (OR), 2.03; 95% confidence interval (CI), 1.12-3.67), both before and after adjustments for covariates. After adjustments for potential confounders, the highest tertial of the plant-based dietary pattern was related to higher odds of PCOS than the lowest tertial (OR, 2.32; 95% CI, 1.23-4.37). In addition, those in the second tertial of the mixed dietary pattern were 66% less likely to have PCOS compared with those in the lowest tertial (OR, 0.34; 95% CI, 0.18-0.61). In conclusion, we found that Western and plant-based dietary patterns were associated with an increased risk of PCOS. Also, moderate adherence to the mixed dietary pattern was associated with a reduced risk of PCOS. Additional studies with a longitudinal design are required to confirm our findings.(Lin AW et., al 2018)

PCOS patients are not always markedly overweight but PCOS is strongly associated with abdominal obesity and insulin resistance. Effective approaches to nutrition and exercise improve endocrine features, reproductive function and cardiometabolic risk profile--even without marked weight loss. Recent studies allow us to make recommendations on macronutrient intake. Fat should be restricted to < or =30% of total calories with a low proportion of saturated fat. High intake of low GI carbohydrate contributes to dyslipidaemia and weight gain and also stimulates hunger and carbohydrate craving. Diet and exercise need to be tailored to the individual's needs and preferences. Calorie intake should be distributed between several meals per day with low intake from snacks and drinks. Use of drugs to either improve insulin sensitivity or to promote weight loss are justified as a short-term measure, and are most likely to be beneficial when used early in combination with diet and exercise.(Legro RS et.,al 2018)

1.3 GENETICS OF POLYCYSTIC OVARIAN SYNDROME

PCOS is a complex genetic trait with strong heritability accounting for as high as 70% of the development of the disorder. Areas covered: The authors summarize the historical and recent findings of genetic studies of PCOS, such as familial studies, twin studies, and molecular

genetic studies, including the results of recent genome wide associated studies. PubMed, Medline and Embase database were used to search relevant articles. Included studies were predominately conducted in Asia, North Africa, North America, and Europe. Expert commentary: Current studies aim to establish the role and function of identified genes; such efforts could serve as potential platforms for novel diagnostic and treatments for PCOS patients. The aetiology of PCOS will be better understood as more data is gathered systematically, subjects are better phenotype larger populations are recruited, and a better understanding of the role of genetic architecture, genetic variation, epigenetics, and gene-gene, gene-environment, and gene-phenotype interaction is obtained.

Weight loss improves ovulation, testosterone levels and insulin resistance in women with polycystic ovarian syndrome (PCOS), but the optimal diet composition is disputed. A diet low in carbohydrates (LCD) may be superior to a standard diet in terms of improving fertility, endocrine/metabolic parameters, weight loss and satiety in women with PCOS.(Chatterjee M et.,al 2020)

1.4 UNDERSTANDING HORMONES

A woman's body is supposed to withstand hormonal changes over the course of a normal menstrual cycle; however, in the case of PCOS, these hormonal issues may prevent a regular cycle from occurring. PCOS hormones are imbalanced and may vary from one woman to the next, but they may play a key role in coming to a diagnosis.(Bandyopadhyay. S 2020)

To diagnose PCOS, doctors must conduct PCOS tests that measure hormone levels and other aspects of the endocrine and reproductive systems. The hormones measured include:

1. Follicle Stimulating Hormone (FSH): With PCOS, this hormone will be normal or below average.
2. Luteinizing Hormone (LH): This hormone will be above average.
3. LH/FSH Ratio: Though this ratio is not as important as once thought, it may reflect elevated amounts of LH.
4. Prolactin: This hormone will be normal or low. Should hyperprolactinemia be present, it will be high and may rule out PCOS.
5. Testosterone: The hallmark of this condition, testosterone will be higher than average.
6. DHEAS: While this may also be elevated, it's levels can rule out an adrenal tumour.
7. Oestrogen: Will be average or slightly above average.
8. Sex hormone binding globulin (SBGH): Might be lower than average get.
9. Androstenedione: May be higher than average.

10. Human chorionic gonadotropin (hcg.): This hormone is measured to check for pregnancy and is not present in the body unless a woman is pregnant.
11. Lipids (including HDL, LDL, cholesterol, and triglycerides): HDL will be a bit low and LDL, cholesterol, and triglycerides will be above average.
12. Glucose: May be above average, particularly if Insulin Resistance is present.
13. Insulin: This hormone may also be above average in the presence of Insulin Resistance.
14. Thyroid stimulating hormone (TSH): This hormone is tested to rule out any thyroid disorders that may cause similar symptoms.
15. Cortisol and Creatinine: These hormones may be tested to rule out Cushing syndrome.
16. 17-hydroxyprogesterone: Testing of this hormone is done to rule out congenital adrenal hyperplasia.
17. IGF-1: This hormone is tested to rule out acromegaly.

1.5 STRESS AND PCOS

Irregular periods: Stress can disrupt your menstrual cycle, leading to irregular periods or even missed periods. This can make it difficult to track your ovulation, making it harder to get pregnant.

Weight gain: When you are stressed, your body produces more cortisol, which can lead to weight gain. Women with PCOS are already at a higher risk of weight gain, so stress can exacerbate this issue.

Acne and excess hair growth: Stress can cause an increase in androgens, which are male hormones that can cause acne and excess hair growth in women with PCOS.

Difficulty getting pregnant: PCOS can make it difficult to get pregnant, and stress can exacerbate this issue by disrupting your menstrual cycle and affecting your hormone levels. (Al-Zahrani et.,al 2009)

1.6 EXERCISE AND PCOS

PCOS accounts for approximately 80% of women with anovulatory infertility, and causes disruption at various stages of the reproductive axis. Evidence suggests lifestyle modification should be the first line of therapy for women with PCOS. Several studies have examined the impact of exercise interventions on reproductive function, with results indicating improvements in menstrual and/or ovulation frequency following exercise. Enhanced insulin

sensitivity underpins the mechanisms of how exercise restores reproductive function. Women with PCOS typically have a cluster of metabolic abnormalities that are risk factors for CVD. There is irrefutable evidence that exercise mitigates CVD risk factors in women with PCOS. The mechanism by which exercise improves many CVD risk factors is again associated with improved insulin sensitivity and decreased hyperinsulinemia. In addition to cardiometabolic and reproductive complications, PCOS has been associated with an increased prevalence of mental health disorders. Exercise improves psychological well-being in women with PCOS, dependent on certain physiological factors. An optimal dose-response relationship to exercise in PCOS may not be feasible because of the highly individualised characteristics of the disorder. Guidelines for PCOS suggest at least 150 min of physical activity per week.(Malgorzata Szczuko et al., 2019)

Early diagnosis and proper knowledge about PCOS can help women with getting appropriate treatment which intern help them normalise their menstrual cycle, restore fertility and further protect them against PCOS related risks (egg; Diabetes, Heart Disease and endometrial cancer). Thus, this study is aimed to analyse the myths prevailing among 20-35 years old women about the PCOS condition and to provide nutritional education to them.(Al-Zahrani et.,al 2009)

CHAPTER-2

LITERATURE REVIEW

2.1 DIET AND PCOS

In 2019, in Iran, Shishehgar *et al* (12) conducted a study to determine the effect of low-calorie hypocaloric diet on human variables and insulin resistance in women with or without PCOS as well as the effect of this diet on clinical and hormonal characteristics of women with PCOS. All participants were urged to eat lean meat, whole grains, low-fat dairy, non-starchy vegetables, and vegetable oils, and were prohibited from consuming fast food or high-salt foods. The results of the mentioned study showed that this diet led to similar benefits in the anthropometric and metabolic characteristics of obese women with or without PCOS. In addition, in women with PCOS, menstrual cycles and biochemical and clinical features improved after six months. Thus, low testosterone levels and an increase in sex hormone binding globulin (SHBG) were observed in women with PCOS. Decreased insulin due to weight loss and reduced hyperandrogenemia were also seen.

In 2020, Kazemi *et al* (13) conducted a cross-sectional study to determine which dietary plan affected ovarian morphology. A survey was conducted on 111 women with PCOS. Four different diet plans were used: 1) healthy eating index (HEI-2015); 2) alternative healthy eating index (HEI-2010); 3) alternative Mediterranean diet (aMED); and 4) dietary approaches to stop hypertension. The study concluded that the aMED and DASH diets improved the appearance of the ovaries. These diets are characterized by favorable combinations of dietary ingredients, which include high dietary fiber, processed composition and ratio of macronutrients, vitamins and minerals and other dietary agents with antioxidant properties. These diets were shown to reduce insulin resistance, dysglycemia, hyperandrogenism and

obesity, also causing satiety and weight loss in women. These interventions appear to improve ovarian steroidogenesis and affect ovarian development by regulating follicle stimulation hormone (FSH). The aMED and DASH diets indicate a decrease in red meat intake and an increase in protein intake from fish and dairy. This leads to a reduction in the number of follicles and blastocysts. Reduced beverage and sodium intake is recommended at DASH, which increases glucose regulation, reduces insulin resistance, and improves abdominal fat deposition.

Finally, in 2020, in Italy, Paoli *et al* (14) conducted a study that studied the effect of a ketonic diet on women with PCOS. Fourteen obese women with PCOS followed a ketonic Mediterranean diet with plant extracts for 12 weeks. They could eat unlimited green leafy vegetables, cruciferous (vegetables), zucchini, cucumbers, and eggplants. The amount of meat, eggs and fish was limited. In addition, participants consumed four dietary supplements and liquid herbal extracts. Dietary supplements are high in protein and very low in carbohydrates. After 12 weeks, almost all measurements improved. Not only insulin was significantly reduced, but also cholesterol and triglycerides. Androgens as well as luteinizing hormone (LH) and the LH/FSH fraction decreased, which resulted in remission of hormonal abnormalities of PCOS.

2.2 STRESS ON PCOS

Signe (2021) demonstrated a link between coping strategies and anxiety and depression levels, and Kolahi (2015) showed a relationship between this and the quality of life of women with PCOS. Some authors have found no difference between women with PCOS and healthy women in the way they deal with stress. Basirat (2020) even showed that women with PCOS have a higher level of Seeking support and Focusing on problems . Coarron (2017) indicates that healthy women and those with PCOS are equally good at coping with difficulty.

PCOS has significant clinical implications and can lead to health problems related to insulin resistance (IR), hyperandrogenemia, chronic inflammation, cardiovascular diseases (CVDs), obesity, and cancers and is the leading cause of chronic anovulation and infertility (Vilmann *et al.* 2012, Murri *et al.* 2013, Desai *et al.* 2014, Carvalho *et al.* 2018, Herman *et al.* 2019, Shaaban *et al.* 2019, Karimi *et al.* 2020, Duică *et al.* 2021, Rudnicka *et al.* 2021a, b). It is worth emphasizing that similar features of PCOS can be observed in some animals (Ryu 2019). Interestingly, biochemical markers of PCOS also may occur in males whose female relatives are afflicted with PCOS because of the inheritance of specific susceptible genes responsible for PCOS. It is possible because the genetic risk factors for PCOS can act

independently of ovarian function, causing hormonal, metabolic, and clinical symptoms through biological pathways common to men and women ([Di Guardo et al. 2020](#)).

One of the debated causes of PCOS is oxidative stress (OS) ([Murri et al. 2013](#), [Desai et al. 2014](#)). However, it has not been established whether oxygen stress affects the development of PCOS or whether it is only a secondary disorder resulting from hyperglycemia and IR occurring in women.

Relationship between OS in PCOS. Many researchers revealed that OS level is significantly increased in patients with PCOS and obesity, IR, cardiovascular disorder, and cancers ([Gonzalez et al. 2012a](#), [Lim et al. 2012](#), [Papalou et al. 2016](#), [Vilmann et al. 2012](#), [Blair et al. 2013](#), [Desai et al. 2014](#), [Zuo et al. 2016](#), [Fatima et al. 2019](#), [Sandhu et al. 2021](#), [Cheng & He 2022](#)).

In the study of G Zhao, et al. done on 177,047 participants, aged above 18 years, patients with BMI more than equal to 40 kg/m² were significantly more likely to have current depression or history of depression and anxiety compared to patients with normal BMI. These findings correlated with the current study. All these findings indicated the greater suffering of PCOS patients and the necessity to give them psychological aid.

There has been a high prevalence of mood disorders found in women with PCOS, particularly a high prevalence of depressive disorders ([Rasgon et al, 2003](#)). Both clinical and biochemical symptom correlates have been found in women diagnosed with PCOS, with depression being associated to greater insulin resistance and higher BMI ([Ragson et al, 2003](#)). Thus, there appears to be an association between depression and classic PCOS markers ([Ragson et al, 200](#)

A study done by Benson et al., who found that women with PCOS had disturbed stress responses, showing an enhanced hypothalamic-pituitary-adrenal (HPA) axis and heart rate reactivity in response to a stress interview task (2008).

Here we present an extensive narrative review of the broadly understood modifications to the lifestyles of women with polycystic ovary syndrome (PCOS). The PubMed database was analyzed, combining PCOS entries with causes, diseases, diet supplementation, lifestyle, physical activity, and use of herbs. The metabolic pathways leading to disturbances in lipid, carbohydrate, and hormonal metabolism in targeted patients are described. The article refers to sleep disorders, changes in mental health parameters, and causes of oxidative stress and inflammation. These conditions consistently lead to the occurrence of severe diseases in

patients suffering from diabetes, the fatty degeneration of internal organs, infertility, atherosclerosis, cardiovascular diseases, dysbiosis, and cancer. The modification of lifestyles, diet patterns and proper selection of nutrients, pharmacological and natural supplementation in the form of herbs, and physical activity have been proposed. The progress and consequences of PCOS are largely modifiable and depend on the patient's approach, although we have to take into account also the genetic determinants. (Malgorzata Szczuko et al., 2019)

Polycystic ovary syndrome has a variety of therapeutic approaches due to heterogeneity in its clinical manifestation. Initially, lifestyle changes are suggested, including more exercise and proper nutrition. These changes not only lead to weight loss, reduced insulin resistance, lower incidence of type 2 diabetes and reduced hyperandrogenism, but also enhance women's fertility as menstruation is restored. When pregnancy is not sought, the main treatments include birth control pills, progesterone, and metformin. If pregnancy is sought and weight loss does not help ovulation, menstruation can be induced with clomiphene citrate with or without metformin, aromatase inhibitors, gonadotropins, and ovarian drilling. In case none of the above ways leads to pregnancy then, the patient is encouraged to use in vitro fertilization. (Maedica Bucur 2020)

CHAPTER -3

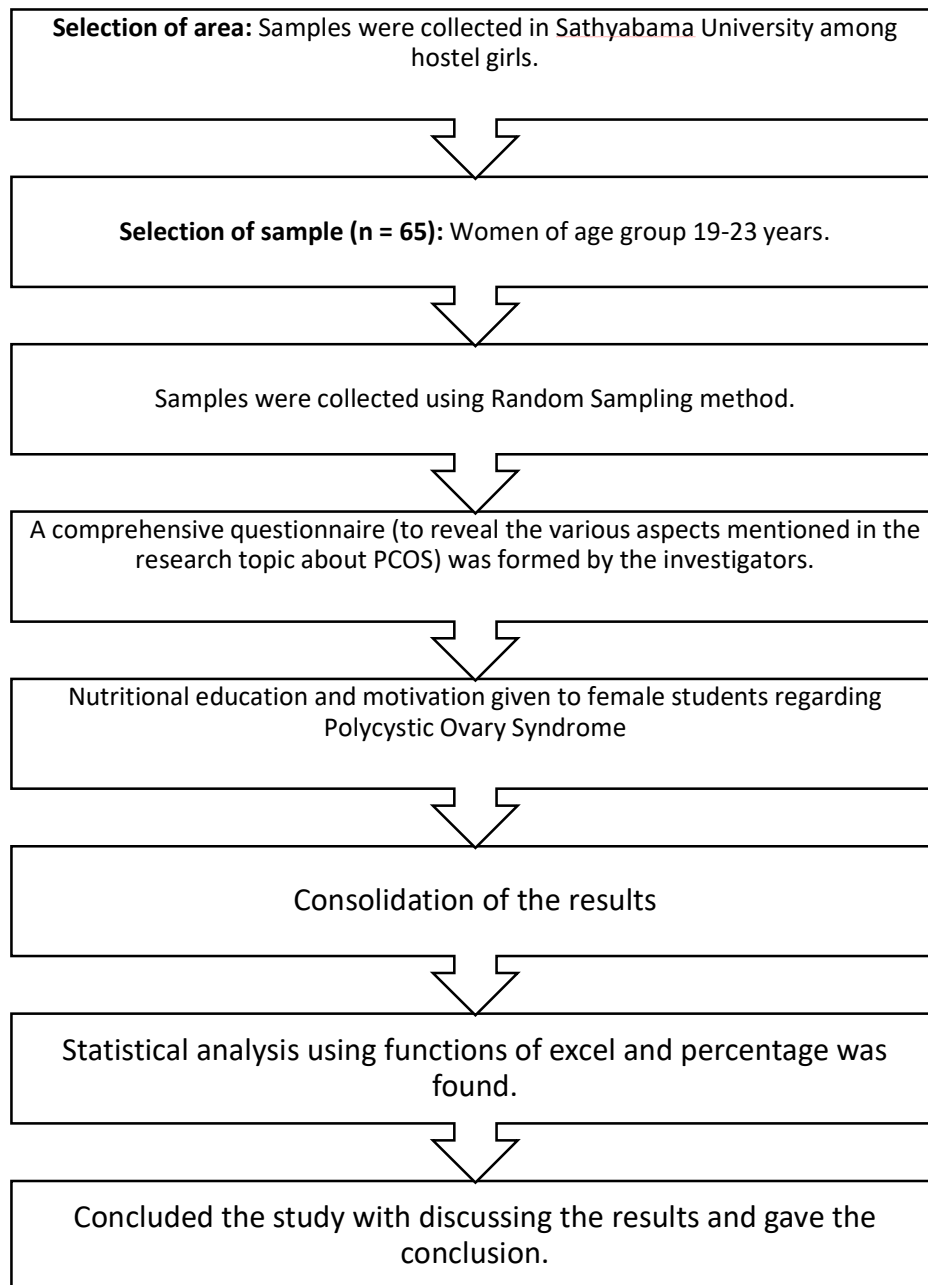
METHODOLOGY

3.1 AIM

This study aimed to determine the nutritional knowledge, perception and myths prevailing towards PCOS(Polycystic Ovarian Syndrome)among Sathyabama Institute of science and technology hostel girls.

3.2 OBJECTIVES

- 1) To find the percentage of hostel girls not having nutritional knowledge about pcos.
- 2) To create awareness on lifestyle modification regarding PCOS and to educate them to lead a healthy lifestyle.



3.3 SELECTION OF SAMPLE

The samples consisted of 65 subjects. The selection was done using convenient sampling.

3.4 DATA COLLECTION

The investigator explained regarding the purpose of the study and explained about the nutritional status ,which is very important aspect to maintain a healthy life .The questionnaire was explained by the investigator and then it was filled.

3.4 INCLUSION CRITERIA

The subject included in the study were women ages between 19-23 years.

3.4 EXCLUSION CRITERIA

Men, women below the age 19 and above the age of 23 years are excluded.

3.4 SAMPLING TECHNIQUE

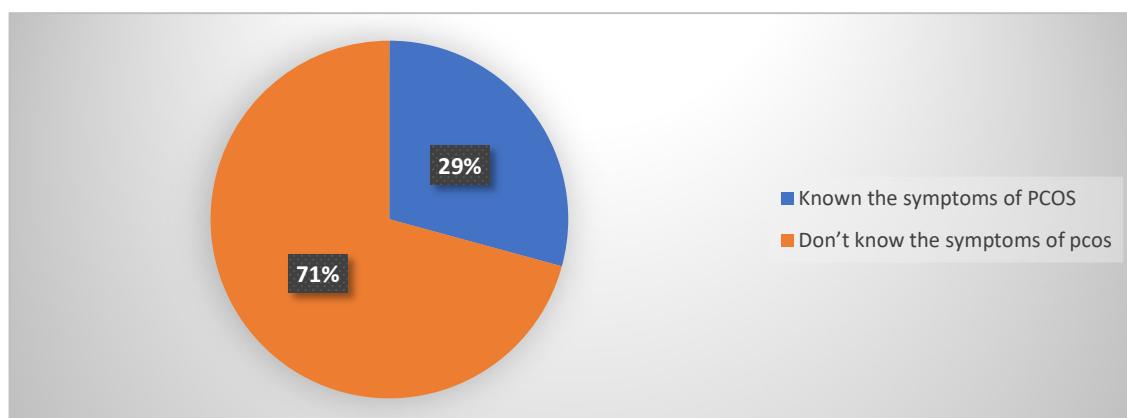
The subjects were selected using Random Sampling technique.

CHAPTER -4

RESULT AND DISCUSSION

TABLE 4.1

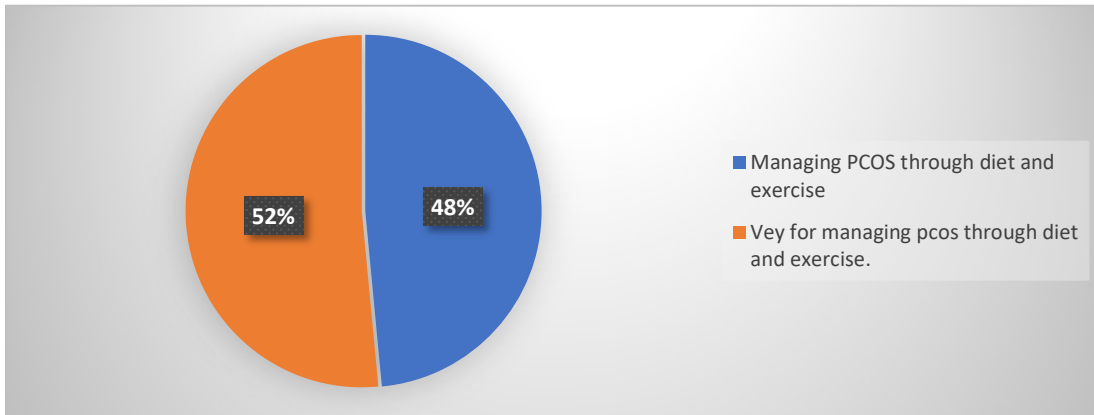
Total number of samples	No. of samples know the symptoms of PCOS	No. of samples don't know the symptoms of PCOS
65	19	46
Percentage	29.2%	70.7%



From the data collected among 65 samples 29.2% subjects are aware about the PCOS symptoms and remaining 70.7% are unaware about it.

TABLE 4.2

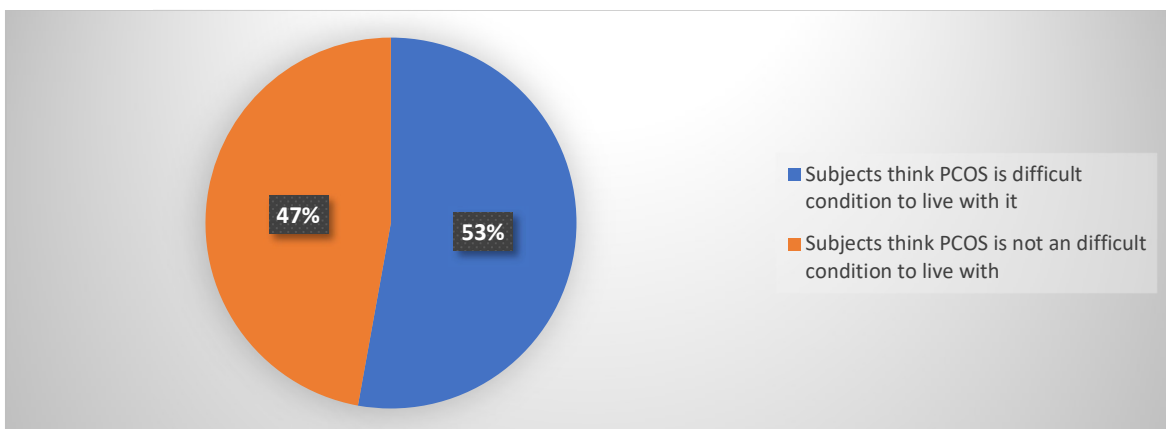
Total number of samples	No. of samples responded positively for managing PCOS through diet and exercise	No. of samples responded negatively for managing PCOS through diet and exercise.
65	32	34
Percentage	49.2%	50.76%



From the data collected among 65 samples 49.2% subjects responded in support to PCOS management through diet & exercise and other 50.7% did not support.

TABLE 4.3

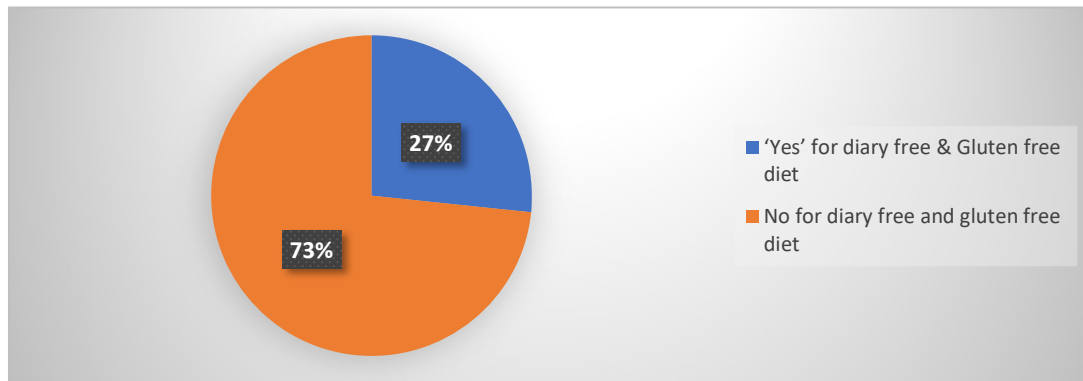
Total number of samples	No. of Subjects think PCOS is difficult condition to live with	No. subjects think PCOS is not an difficult condition to live with
63	31	34
Percentage	47.6%	52.3



From the data collected among 65 samples, 47.6% of the subjects feels PCOS is difficult condition to live with and the remaining 52.3% contradicts it.

TABLE 4.4

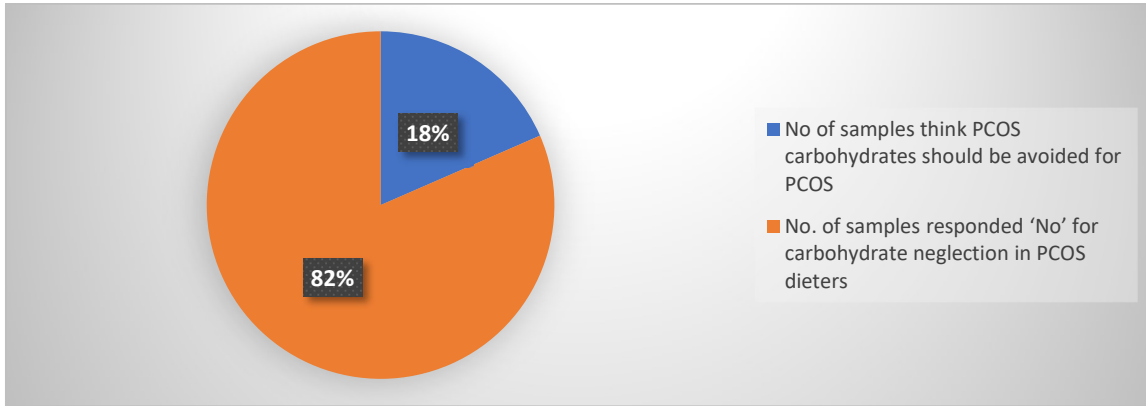
Total number of samples	No .of samples responded 'Yes' for diary free & Gluten free diet	No. of samples responded 'No' for diary free and gluten free diet
65	12	53
Percentage	18.4%	81.5%



From the data collected among 65 samples ,18.4% subject thinks that PCOS diet should be dairy free gluten free and the remaining 81.5% did not.

TABLE 4.5

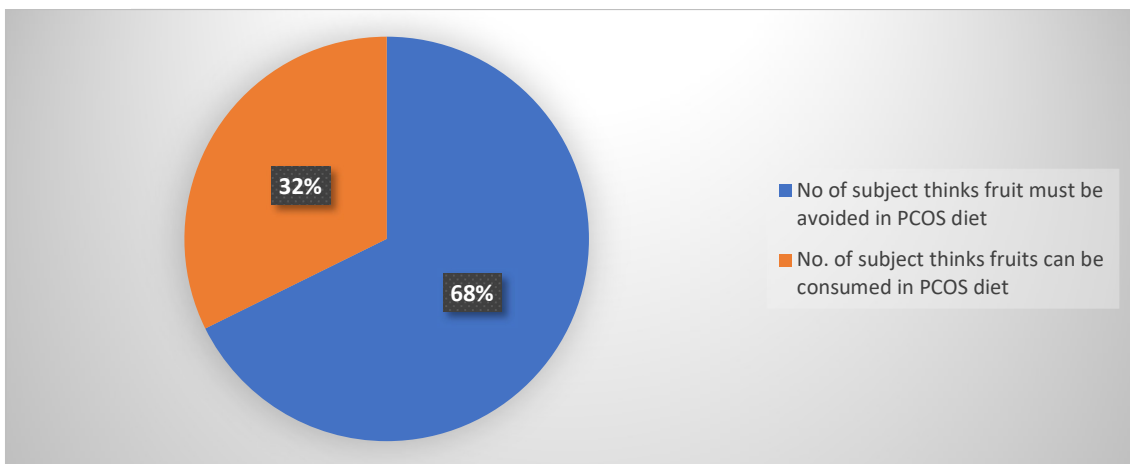
Total number of samples	No. of samples think carbohydrates should be avoided in PCOS	No. of samples think carbohydrate can be included in PCOS
65	12	53
Percentage	18.4%	81.5%



From the data collected among 65 samples, 18.4% of the subject supported the consumption of carbohydrates in PCOS and other 81.5% disagreed it.

TABLE 4.6

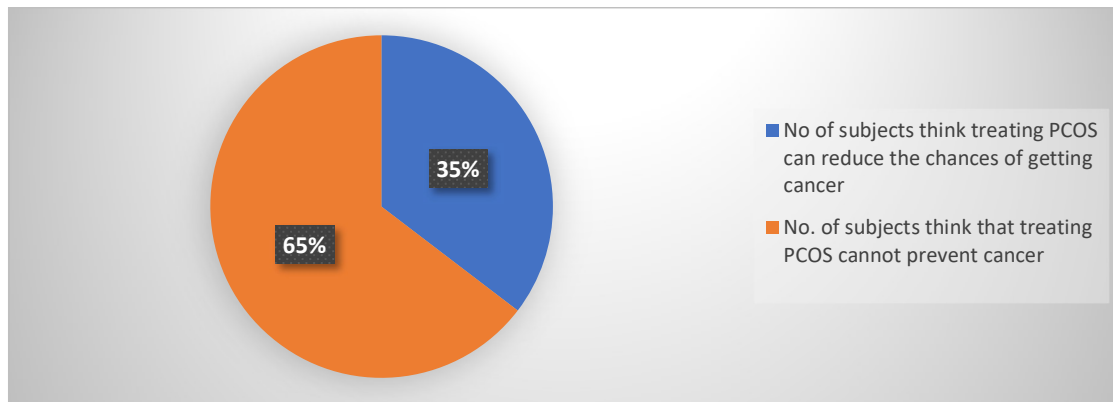
Total number of samples	No. of subject thinks fruit must be avoided in PCOS diet	No. of subject thinks fruits can be included in PCOS diet
65	44	21
Percentage	67.6%	32.3%



From the data collected among 65 samples, 32.3% subjects think fruits is can be consumed and 67.6% subjects thinks that food should be avoided.

TABLE 4.7

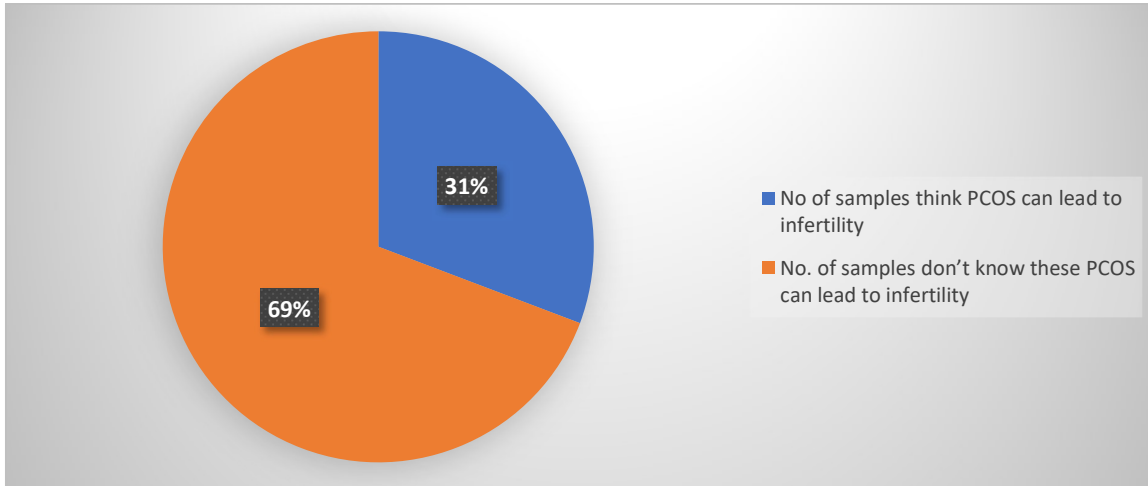
Total number of samples	No. of subjects think treating PCOS can reduce the chances of getting cancer	No. of subjects think that treating PCOS cannot prevent cancer
65	23	42
Percentage	35.3%	64.6%



From the data collected among 65 samples, 35.3% subjects think treating PCOS prevents cancer and other 64.6% denied it.

TABLE 4.8

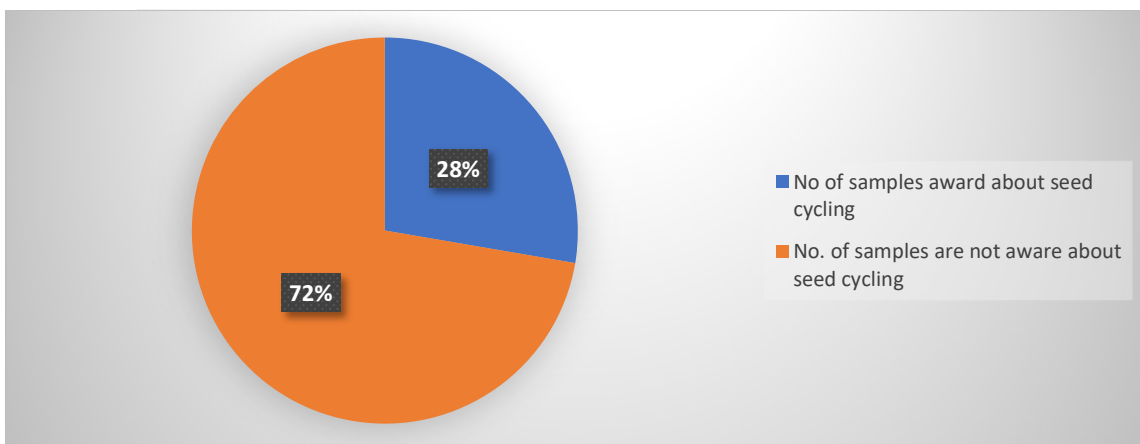
Total number of samples	No. of samples think PCOS can lead to infertility	No. of samples don't think PCOS can lead to infertility
65	20	45
Percentage	30.7%	69.2%



From the data collected among 65 samples, 30.7% subjects think PCOS can lead to infertility and remaining 69.2% don't think PCOS can lead to infertility.

TABLE 4.9

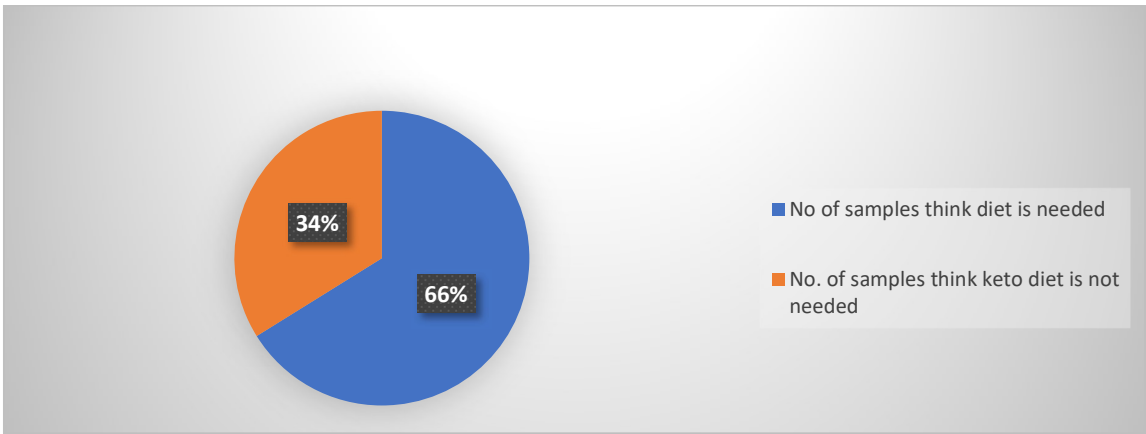
Total number of samples	No. of samples aware about seed cycling	No. of samples unaware about seed cycling
65	18	47
Percentage	27.6%	72.3%



From the data collected among 65 samples,27.6% subjects are aware about seed cycling other 72.3% subjects are unaware about it.

TABLE 4.10

Total number of samples	No. of samples think keto diet is needed	No. of samples think keto diet is not needed
65	43	22
Percentage	66.1%	33.8%



From the data collected among 65 samples, 66.1% subjects think keto diet is required and other 33.8% subjects think keto diet is not required .

CHAPTER-5

SUMMARY AND CONCLUSION

The study found that women with Polycystic Ovary Syndrome (PCOS) have moderate nutritional knowledge, positive attitudes towards dietary modifications, and perception of the role of nutrition in the management of PCOS. However, there is a gap between their knowledge and implementation of dietary modifications . In this study we have found that among 65 samples 70% subjects don't know the symptoms of PCOS,50% subjects think PCOS cannot be managed through diet and exercise,81% subjects think PCOS diet may not be dairy free and gluten free,81% subjects think that carbohydrate must be avoided in PCOS diet,69% subjects think PCOS do not lead to infertility,72% subjects are unaware about seed cycling and 66% subjects think keto diet is necessary for PCOS condition .Therefore, there is a need for targeted nutrition education and counselling programs for women with PCOS.

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APPENDIX

QUESTIONNAIRE

1. Do you know the symptoms of PCOS?
2. Are you known case of?
 - a) Thyroid
 - b) diabetes
 - c) Hypertension
3. PCOS is hereditary and can be transferred from mother to daughter.
4. PCOS is permanent condition and cannot be cured.
5. PCOS cannot be managed through diet and exercising.
6. PCOS is difficult condition to live with it
7. PCOS diet has to dairy free and gluten free .
8. Carbohydrates should be avoided for PCOS dieters?
9. PCOS only affects women?
10. People with PCOS should avoid fruits?
11. Regulation of menstrual cycle helps in regulation of ovulation.
12. Treating PCOS reduce chance of getting cancer?
13. Do you think PCOS can lead to infertility?
14. Are you aware about seed cycling in your diet to regularize your mensural cycle?
15. Does reduction of weight help you get rid of PCOS?
16. Keto diet is the best diet for PCOS?
17. With PCOS women will not conceive?