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"Short Review on Significant Managing Strategies in Poly Cystic Ovarian Disease (PCOD)"

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ABSTRACT:
Now a days PCOD(Polycystic Ovarian Disease) is common health problem in female in menstruating age.Up to one in ten women of childbearing age suffer from PCOD, or polycystic ovarian disease, a hormonal imbalance that affects the reproductive system. Lifestyle factors, including BMI, diet, physical activity, stress, and family history of PCOD, strongly affect the evolution andmanagement of PCOD and are essential in the hormonal imbalances and metabolic disturbances linked to PCOD.

Clinically, PCOD manifests as infertility, acne, alopecia, excessive body and facial hair, irregular menstruation, and obesity. Additionally, the illness has a negative effect on mental health, causing anxiety, despair, and low self-esteem. With the Rotterdam criteria being accepted, the diagnosis is based on clinical evaluation bolstered by biochemical testing and ultrasound imaging.The possibility of experiencing metabolic syndrome, type 2 diabetes, cardiovascular ailments, and cancers of the endometrium rises if PCOD is left untreated.

The goal of this summary is to give readers a thorough grasp of PCOD symptoms, diagnosis, and treatment options. By examining the many facets, it aims to increase knowledge andawareness of this prevalent endocrine condition that affects women all over the world.

Keywords :PCOD(Polycystic Ovarian Disease),Female, Causes, Management, Reproductive system.

I. INTRODUCTION

What Is PCOD ?

PCOD is a hormonal condition that affects the ovaries and can cause irregular periods, reproductive problems, and other unpleasant symptoms. This disorder, called polycystic ovarian disease, is defined by the occurrence of numerous minute fluid-filled sacs in the ovaries. Disrupting the ovulation process alters hormone levels such as testosterone, progesterone, FSH, and LH. A variety of factors are at play, including low-grade inflammation, high testosterone, excess insulin, and genetics[1]

During a normal menstrual cycle, a mature follicle—essentially a cystic structure—is formed at the time of ovulation. Typically, a follicle that has reached maturity and is ready to release an egg measure between 18 and 28 mm in diameter. The key difference between normal and polycystic ovaries lies in follicle development: although polycystic ovaries contain numerous small antral follicles with eggs, these follicles fail to grow and mature properly, preventing ovulation. As a result, women with polycystic ovaries often experience irregular menstrual cycles due to infrequent or absent ovulation [2,3].

The hypothalamus, pituitary gland, and ovaries all play a complex role in the menstrual cycle, which prepares the body for potential conception. The pituitary releases follicle-stimulating hormone (FSH) during the follicular phase to stimulate the ovaries into developing follicles, including dominant follicles undergoing maturation and raising estrogen levels that would thicken the uterine endometrial lining. This intricate mechanism is broken down into three phases. A surge in luteinizing hormone (LH) causes ovulation, which is the second phase of the cycle and results in the discharge of a fully developed ovum from the dominant follicle into the fallopian tube.

The creation of the corpus luteum from the ruptured follicle, which secretes progesterone to preserve the endometrial lining, is the hallmark of the subsequent luteal phase. If this doesn't happen, hormone levels fall, menstruation starts, and a new cycle begins. In women with PCOD, hormonal imbalance affects normal menstrual cycles, causing irregular ovulation and many immature follicles or ovarian cysts[4].

The male hormones testosterone and androstenedione are frequently overproduced in women with polycystic ovaries, which raises blood testosterone levels and promotes the growth of facial and body hair[5,6,7].

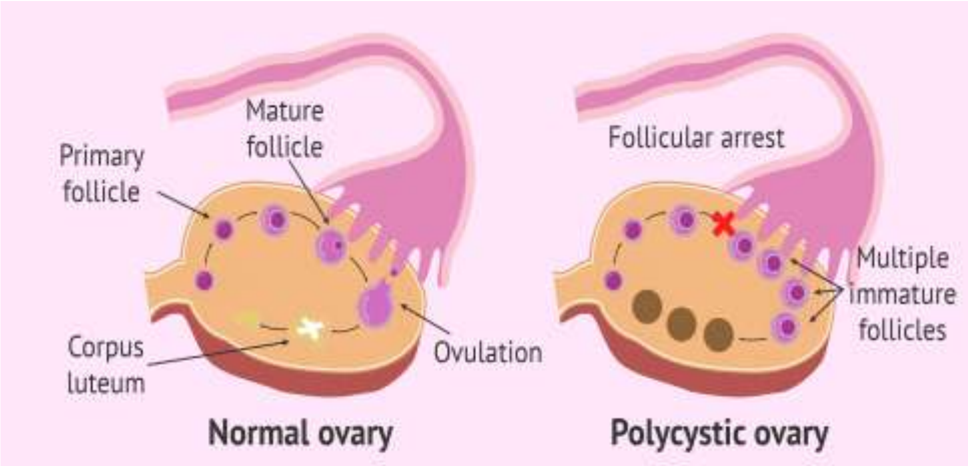

Fig.1Distinction between a normal ovary and a polycystic ovary

Etiology:

The development of Polycystic Ovarian Disease (PCOD) is influenced by a combination of genetic, hormonal, and environmental factors, making its origin quite complex. The primary hormonal disturbance observed in PCOD involves an increase in luteinizing hormone (LH) levels, which stimulates the ovaries to produce excess amounts of androgenic hormones, such as testosterone.Multiple immature ovarian follicles or cysts are produced because of the suppression of normal follicular development and ovulation. Insulin resistance is another characteristic of women with PCOD. The ovaries release more androgens when exposed to high insulin levels, which adversely affects their activity and exacerbates the symptoms of baldness, hirsutism, and acne. Most of the time, insulin resistance results in metabolic issues like obesity, but they are less severe than PCOS.

The illness is made worse by environmental variables such physical inactivity, stress, food, and lifestyle choices. Additionally, as this disorder is more common in women with a family history of the condition, family history plays a genetic role in its inheritance. Recent research has revealed that the mechanism of insulin resistance development in PCOD patients also involves a variation in the insulin receptor gene [8,9].

PCOD causes:

The exact origins of PCOD are not fully understood, but disrupted hormonal regulation is considered a key factor.Numerous abnormalities have been documented in women with PCOD[10,11] .Genetic (inherited) cause: PCOD frequently runs in families. It can be inherited from family members who may have the same symptoms, such as a mother, aunt, or sister. An individual's chance of developing PCOD may rise as a result[12].

Insulin Resistance: Most PCOD-affected women have insulin resistance, which their bodies compensate for by making more insulin. The hormone insulin, released by the pancreas, regulates blood glucose. PCOD can lead to insulin resistance, a condition where the body's cells fail to respond properly to insulin. As a result, blood glucose levels rise. More insulin is produced to stop the rise. The male hormone androgen, which is produced by too much insulin, exacerbates the symptoms of PCOD, including acne, weight gain, irregular periods, and difficulty ovulating. Other hormones that are elevated in PCOD include sex hormone binding globulin, prolactin, which stimulates breast glands to produce milk, and luteinizing hormones (LH), which encourage ovulation. When elevated, they have aberrant effects on the ovaries and lower high levels of testosterone, respectively [13,14].

PCOD in the family:A study conducted at RAKMHSU, UAE, found that having a family history of PCOD moderately increased the probability of being diagnosed with the condition [15].

Diabetes in the family : Women with PCOD often develop insulin resistance, thereby raising their risk for Type 2 diabetes, and they are more likely to encounter diabetes during pregnancy [16].

Infertility in the family history: Infertility is more common in women with PCOD. This is due to the elevated testosterone levels, which can lower or even eliminate the frequency of ovulation.

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Obesity: A Dehradun study found that obesity leads to hyperandrogenism because of the peripheral conversion of estrogen to androgen, which results in PCOD. Therefore, it appears that obesity raises the risk of PCOD [17].

Fast food eating habits: Unhealthy eating habits and hormonal imbalance are related .Dietary fats and proteins, when exposed to blood glucose, may generate advanced glycation end products (AGEs). Such substances can contribute to inflammation and cellular stress, both of which are associated with diabetes and heart conditions.PCODs are already at risk for metabolic syndrome, which includes diabetes and heart problems. Poor physical activity, together with nutritional factors, is an important contributor to the occurrence of PCOD.

Stress: Anxiety, despair, stress, and low self-esteem are among the mental health conditions that women with PCODs are more likely to encounter. Women with PCOD31 are thought to have a much-increased risk of mental health problems [18].

Difference between PCOD and PCOS

Clinical Differences in Symptoms:PCOD and PCOS are primarily distinguished by the severity of clinical manifestations, including menstrual irregularities and difficulties with fertility. The irregular periods of PCOD are caused by inadequate follicle growth, which also results in random shedding and occasional ovulation that is less disruptive to fertility. The symptoms of PCOS are more severe than those of moderate hirsutism, acne, and weight gain[19,20] .

On the other hand, PCOS causes a wide range of menstrual cycle problems, such as severe anovulatory oligomenorrhea or oligo-amenorrhea because of persistent anovulation. Women with PCOS frequently complain of infertility because of irregular or absent ovulation. In addition, compared to people without this problem, they seem to have more severe and pervasive symptoms such hirsutism, severe acne, obesity, and insulin resistance .

There are several similarities between the diagnostic criteria for PCOD and PCOS, with hormone levels and metabolic abnormalities being the main differences. The diagnosis of PCOD is typically based on ultrasonography results that reveal more than ten immature follicular formations in an ovary. Androgen levels may be somewhat elevated in blood tests, but they are not as noticeable as those in PCOS. In PCOD, ovulation is irregular rather than entirely missing.

The Rotterdam Criteria define PCOS diagnosis as the presence of at least two among three features: irregular menstruation or anovulation, clinical manifestations of high androgen levels, and polycystic ovaries observed through ultrasound imaging; High LH, high androgen levels, and, in certain situations, signs of insulin resistance including elevated fasting insulin levels or glucose intolerance are biochemical characteristics of PCOS [21,22].

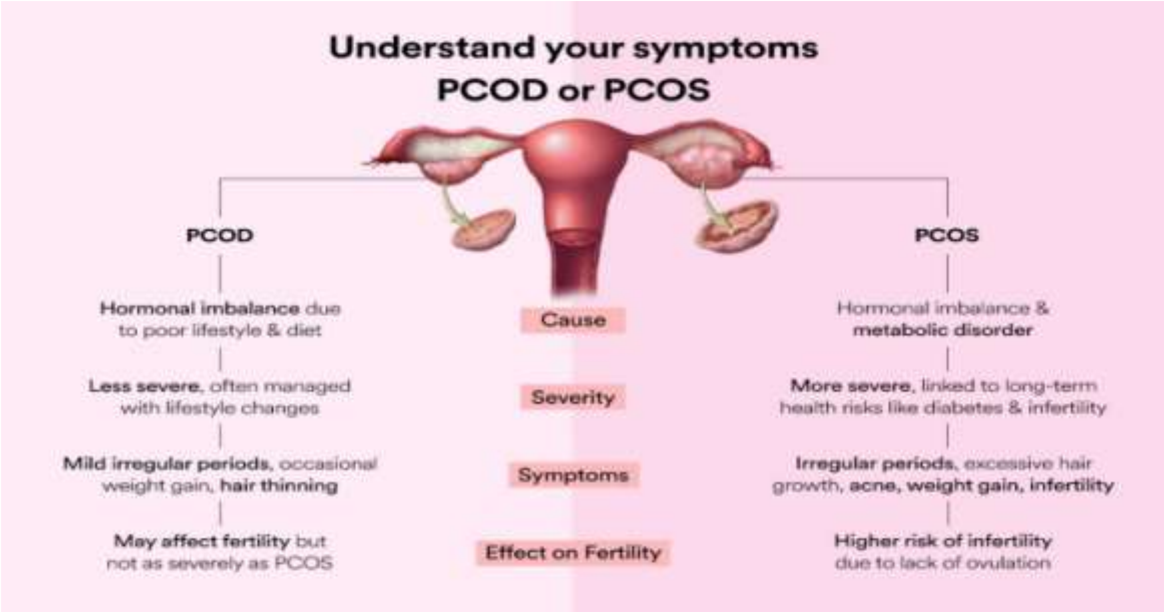

Fig.2 Difference between PCOD and PCOS

PCOD Symptoms :
A wide spectrum of symptoms, from minor to severe, are found in PCOD:
Irregular periods: Women with PCOD frequently have irregular menstrual cycles, which might include skipped or delayed periods.
Gaining Weight and Having Trouble Losing Weight: Women with PCOD find it difficult to maintain a healthy weight due to metabolic disruptions.
Excessive Hair Growth (Hirsutism): Women may grow body and facial hair because of elevated testosterone levels.
Oily skin and acne: Hormonal imbalances lead to outbreaks, which frequently occur on the back, chest, and face.
Hair Loss or Thinning: PCOD frequently results in androgenic alopecia or thinning of the scalp hair
Mood Swings and Mental Health Issues: Altered hormone levels in PCOD can contribute to emotional disturbances, including anxiety and depression.
Infertility : Another common sign of PCOD is difficulty becoming pregnant. Because PCOD frequently affects regular ovulation, women with the illness may be infertile or find it difficult to conceive. However, with the right treatment, many women with PCOD can still have children.
Skin Darkening : Women with PCOD may have dark skin patches, especially around the neck, groin, or underarms. This illness, known as acanthosis nigricans, is linked to insulin resistance and can be a visual symptom of the disorder[23].

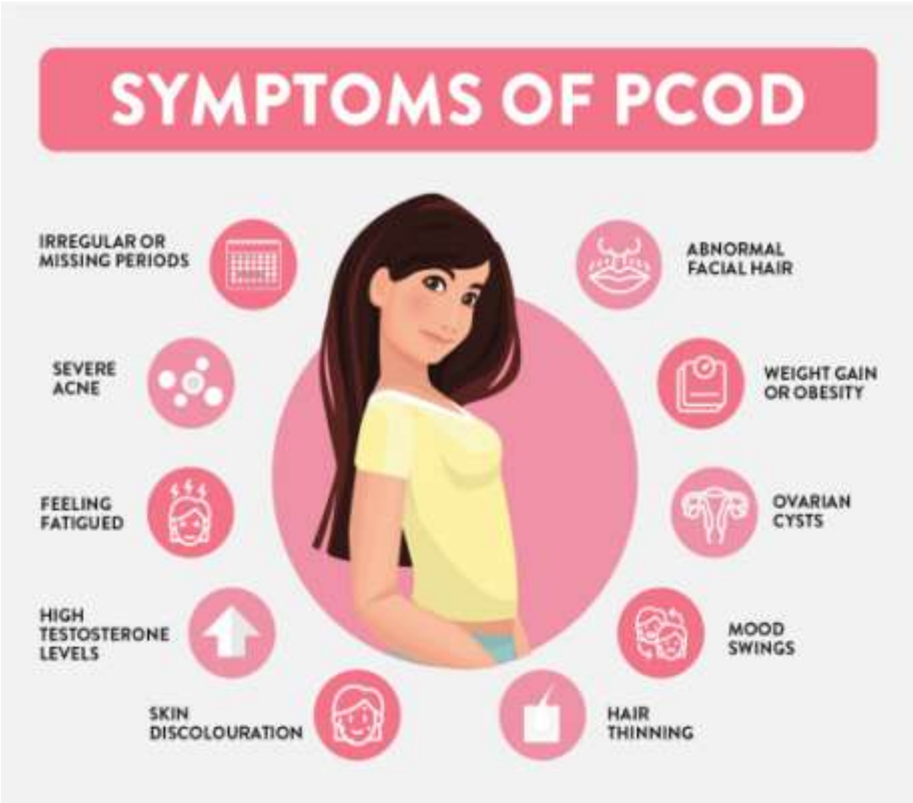

Fig.3 Symptoms of PCOD

Pathophysiology:
PCOD's pathophysiology is complicated and still unknown. PCOD is a long-term condition. Stein and Leventhal initially characterized it in 1935[24]. PCOD is a metabolic, heterogeneous, and reproductive illness. Insulin resistance, gonadotropin release, and ovulatory dysfunction are among the several pathogenic mechanisms of PCOD[25].
Excess Androgen, Adrenal, and Ovary: Excessive ovarian or adrenal androgen production is a hallmark of PCOD. Excess levels of adrenal androgens, especially dehydroepiandrosterone sulphate (DHS), are seen in more than half of patients with polycystic ovarian syndrome (PCOS).

However, the cause of the excess androgen in the adrenal glands is still unknown.

Resistance to insulin: The primary pathogenic factor in PCOD is insulin resistance. PCOD is commonly associated with elevated insulin levels and reduced sensitivity to insulin. Studies have shown that in adipose tissue and skeletal muscle, this resistance results from impairments in insulin receptor signalling after insulin binding [26].This is because an excess of androgen causes an increase in insulin resistance in peripheral tissues. Both on its own and by aggravating PCOD's insulin resistance, obesity raises the risk of hyperandrogenism, hirsutism, infertility, and irregular menstruation. Thirty to sixty percent of PCOD patients with a BMI of more than thirty kilograms per square meter have obesity, which is linked to hyperinsulinemia. Even women with PCOD who are not overweight can exhibit insulin resistance, which worsens as BMI increases [27].

Neuroendocrine Elements: Among women of reproductive age, 5% to 20% experience infertility primarily due to neuroendocrine disorders. Women with PCOD are reported to have higher luteinizing hormone pulse frequency, amplitude, and ratios of luteinizing hormone to follicle-stimulating hormone. elevated pulsatile GnRH production is probably the cause of the elevated LH pulse amplitude and frequency seen in PCOS. GnRH neurons do not express the progesterone receptor AR, but they do express the estrogen receptor-β. The hypothalamic neural circuitry located above the GnRH neurons is responsible for mediating the indirect negative feedback effects of steroid hormones [28,29].

Hyperandrogenism and gonadotropin release: Women with PCOS need elevated progesterone to suppress GnRH pulse frequency, as insufficient levels cause reduced FSH synthesis and ongoing LH-driven androgen production in the ovaries. In PCOD, increased LH activity on theca cells boosts the production of androgens, especially androstenedione and testosterone.

The origin of PCOD during puberty may be explained by the GnRH pulse generator's decreased sensitivity. Approximately 60–80% of women with PCOD have elevated testosterone levels [30-32].

Dysfunction of the ovules: The disruption of the ovaries' follicular level in PCOD causes granulose cells to produce more AMH (Anti-Mullerian Hormone). In the absence of ovulation, increased estrogen and diminished progesterone levels stimulate endometrial hyperplasia, thereby elevating the risk of endometrial cancer [P1].Lower FSH levels cause the ovary's follicular development to be disrupted, which results in amenorrhea and anovulation. In women with PCOD, over-secretion of luteinizing hormone plays a major role in causing both infertility and miscarriages [33].

Diagnosis of PCOD :

Polycystic Ovarian Disease (PCOD) is usually diagnosed by a combination of imaging scans, blood tests, physical examinations, and a review of medical history.

For management and treatment to be effective, early diagnosis is essential. The diagnosis of PCOD is made as follows:

Physical examination and medical history:

The patient's medical history, including menstrual cycles, weight fluctuations, and any symptoms like excessive hair growth, acne, or irregular periods, will be reviewed first by the doctor. A physical examination can help detect symptoms of PCOD, such as hirsutism (excessive hair growth) or acanthosis nigricans (darkened skin patches).

Blood Examinations :

Levels of hormones, particularly androgens, insulin, FSH, and LH, are determined via blood testing to monitor endocrine function. The LH to FSH ratio is frequently out of balance in women with PCOD, which may help with diagnosis. Additionally, blood tests aid in the diagnosis of insulin resistance and the exclusion of thyroid problems and other illnesses that present with same symptoms.

Ultrasonography :

One important diagnostic procedure for PCOD is a pelvic ultrasound. The doctor looks at the ovaries during the operation to check for the little cysts (follicles) that are diagnostic with PCOD. Although a diagnosis cannot be confirmed by cysts alone, it can be strengthened if they are present in conjunction with other symptoms. Leaving Out Other Conditions In order to rule out other illnesses including thyroid disorders, endometriosis, or uterine fibroids that could exhibit similar symptoms, the doctor may also conduct testing. To guarantee appropriate therapy, it's critical to distinguish PCOD from these illnesses.

A woman is often diagnosed with PCOD if she meets at least two of the three requirements listed below:

- ✓ irregular ovulation or periods

- ✓ Ovarian cysts and indicators of high male hormones,
- ✓ acne or excessive hair growth.

A customized treatment plan can be developed after a diagnosis is made, considering the patient's symptoms, health objectives, and the severity of the ailment. Symptom management, hormone balance regulation, and quality of life can all be enhanced by early diagnosis and intervention[23].

Treatments of PCOD :

Drugs to Control Menstrual Cycles :

Pills for birth control orOral Contraceptives (OCPs): In women with polycystic ovaries or polycystic ovary syndrome (PCOS), oral contraceptives are commonly prescribed to regulate irregular menstrual cycles and reduce elevated testosterone levels. These contraceptive pills, which contain mixtures of progestin and estrogen, negatively control the pituitary gland's secretion of LH, which lowers the generation of androgens in the ovaries. This relieves issues like hirsutism, acne, and unpredictable menstrual flow. Additionally, OCP prevents the endometrium from becoming hyperplastic, which occurs during estrous cycles when ovulation occurs repeatedly. They also normalize cycles and preserve hormonal balance [34,35].

Drugs for Fertility and Ovulation :

Clomid : Clomiphene citrate, commonly known as Clomid, is used in women with PCOD to stimulate ovulation. It works by blocking estrogen receptors in the hypothalamus, which gradually raises gonadotropin-releasing hormone (GnRH) levels, leading to increased secretion of luteinizing hormone (LH) and follicle-stimulating hormone (FSH).In healthy women, these processes cause ovulation and follicular growth. The ovulation process in women who have irregular or nonexistent menstrual cycles, clomiphene stimulation aids in the induction of normal estrus cyclicity[36,37].

Metformin: Metformin One of the most often prescribed medications for the treatment of women with polycystic ovarian disease is metformin oral medication, also known as Glucophage, which is a very insulin-specific drug used for optimal management in patients resistant to insulin. The conditions are primarily pathophysiologically insulated and provide a framework for the administration of metformin to reduce blood glucose, improve peripheral glucose utilization, alleviate hepatic glucose production, and aid in the restoration of normal insulin sensitivity. Other benefits include lowering androgen levels, stimulating ovulation, and controlling menstrual cycles. As a result, it addresses anovulation, hyperandrogenism, and irregular menstruation.Weight loss is another indication of this treatment's effectiveness. In terms of insulin resistance in PCOD-affected women, it is highly effective at increasing fertility [38,39].

Medicines That Are Anti-Androgen :

Spironolactone: One of the main characteristics of PCOD in women is elevated androgen levels, which can be treated with the anti-androgen medication spironolactone.Androgen blockade reduces androgens and accompanying symptoms by inhibiting the androgen receptor and suppressing the 17α-hydroxylase enzyme in testosterone manufacture.This is because excess androgen causes symptoms including hirsutism and acne. It is not advised for women who wish to become pregnant because the medicine is used in conjunction with other drugs to address the symptoms of hyperandrogenism [36,37].

Home Remedies to manage PCOD :

Several home remedies can help reduce symptoms and promote general health, even if medical therapies are frequently required to control polycystic ovarian disease (PCOD). These treatments can offer extra advantages when used with traditional therapies and a healthy way of living. Here are a few natural strategies for PCOD management:

Modifications to Diet :

A healthy, well-balanced diet is essential for PCOD management. Pay attention to:

Low-glycaemic foods: Incorporate foods like vegetables, whole grains, and legumes that have a low glycaemic index. To effectively manage PCOD, these meals aid in the regulation of insulin levels.

Vegetables and fruits:A diet rich in fruits and vegetables not only provides vital vitamins and minerals but also helps in managing body weight [40] .

Herbal Supplements

The following natural products may help control PCOD symptoms:

Cocos nuciferaor coconut palm: Cocos nucifera, also known as naral in Marathi and nariyal in Hindi, is a member of the Arecaceae family. C.

nucifera's active ingredients have antibacterial, antihypertensive, and antioxidant properties[41,42].Letrozole-induced PCOD in female rats is lessened by the flowers of Cocos nucifera. Monitoring revealed that it increases the weight of the ovary, demonstrating an estrogenic impact, elevates the level of high-density lipoproteins, and, because of its strong antioxidant qualities, aids in the treatment of polycystic ovaries[43]. FSH and LH, as well as flavonoidswhich have a hypoglycemic impact, are reduced to normal by the C. nucifera extract[44,45].Cocos nucifera can therefore be used as a supplemental treatment for PCOD.

Glycyrrhiza glabra, or liquorice: Liquorice is a member of the Leguminosae family and is used to treat several illnesses. Liquorice has been shown to have anti-ulcer, antiviral, anticancer, anti-allergenic, anti-diabetic, antioxidant, anti-thrombic, anti-malarial, anti-bacterial, immune-stimulant, and other pharmacological properties. Along with a few flavonoids, such as liquirtin, isoliquertin, liquiritigenin, and rhamnoliquirilin[46,47], glycyrrhizic acid is an active component of liquorice. The chemical components of liquorice, glabrene and glabridin, decrease low density lipoproteins and mimic estrogen action. According to one study, licorice dramatically boosts oocyte fertilization rates and enhances embryonic growth in mice with PCOD. When combined with spironolactone, licorice is highly beneficial for women with PCOD[48,49].

Mentha piperita, or peppermint: Mentha piperita, also known as peppermint, is a member of the Lamiaceae family and has numerous medicinal uses. Acetaldehyde, amyl alcohol, limone, citronellol, menthol, and a few flavonoids and phenolic acids are among the essential oils found in peppermint [50,51]. Peppermint oil lowers testosterone levels and weight in animal models with PCOD. One of the main issues with PCOD that causes anovulation is infertility. Consuming peppermint can enhance ovulation [52]. In rats with PCOD, the combination of peppermint and flaxseed extract successfully enhanced endocrine hormone secretions and restored ovarian morphology [53]. Antioxidant characteristics Supplementing with peppermint improved ovarian cysts, stromal mesenchymal cells, and luminal epithelial cell necrosis and hyperplasia6[54].

Punica granatum L., or pomegranate: Since ancient times, pomegranates have been used extensively to treat a variety of illnesses due to their many health advantages. Flavonoids, minerals, vitamins, and hydrolyzable tannins like ellagitannin and ellagic acid are all present. It has potent hepatoprotective, antioxidant, anti-inflammatory, antibacterial, antiviral, antidiarrheal, and anti-diabetic properties[55]. One significant risk factor for PCOD is obesity. Pomegranate leaf extract dramatically lowers lipid levels and body weight[56]. According to a few research, pomegranate extract lowers the levels of free testosterone and estrogen in female wistar rats that have been given PCOD[57]. Pomegranate leaf ethanolic extract supplements assist lower blood sugar levels, which are a serious problem for PCOD[58].

Aloe vera, often known as Barbados aloe: The most popular plant for its therapeutic properties is aloe vera. Aloe vera's phytosterols effectively reinstated steroidogenesis. Anthraquinones, chromones, polysaccharides, and enzymes with hypoglycemic, anti-inflammatory, and antioxidant properties are the main phytoconstituents[59]. Aloe vera has been shown to enhance insulin sensitivity in women with PCOD, a group often affected by insulin resistance [60]. Letrozole, an aromatase inhibitor, was used to cause PCOD in a female rat. The rat was then given an oral aloe vera gel formulation at a dose of 1 milliliter per day for 45 days. Rats have been shown to restore steroidogenesis and the estrus cycle. It raises levels of high-density lipoprotein and lowers triglycerides [61].

Acupuncture: Due to its functional advantages in stimulating the ovaries and balancing hormone levels, acupuncture, a traditional Chinese medical practice, has been discovered to be useful in potential treatments of PCOS or PCOD. It is thought to have a role in controlling the hypothalamic-pituitary-ova axis, follicular development, and ovulation because it increases blood flow to the ovaries [62]. Additionally, acupuncture can help with insulin resistance, stress reduction, and menstrual cycle regulation [63]. Acupuncture increases the chances of pregnancy in women with PCOS when combined with other reproductive therapies, according to several studies [64]. For these women looking for alternate PCOS therapies, acupuncture offers an additional option, even if results may vary [65].

Homoeopathy for PCOD: Homeopathic treatment is typically tailored to everyone’s symptoms. Individual symptoms, both physical and emotional, are typically taken into consideration when prescribing homoeopathic remedies such as Sepia, Pulsatilla, and Calcarea carbonica [66]. Pulsatilla is suggested for hormonal imbalances and emotional disorders, whereas Sepia is suggested for irritability, exhaustion, and irregular menstrual cycles [67]. Women who have gained a lot of weight and have a slow metabolism are typically prescribed Calcarea Carbonica. Some sources claim that there is no substantial evidence of homeopathy's benefits for PCOS; yeta few women report improvements in menstrual cycles, hormones, and symptoms [68].

Mineral and Vitamin Supplements: The signs and symptoms of PCOS and PCOD can be treated with a variety of vitamin and mineral supplements. Most women with PCOS should also be deficient in vitamin D, and supplementation should be opposed if it has been demonstrated to enhance insulin sensitivity, testosterone levels, and menstrual cycle regularity [69]. Inositol, particularly myo-inositol and D-chiro-inositol, is widely used to enhance ovarian function, control menstrual cycles, and improve insulin sensitivity [70]. Flaxseed or fish oils have more omega-3 fatty acids. Many people are aware of its anti-inflammatory qualities, which have been shown to help lower insulin resistance and androgen levels [71].

Body-Mind Treatments In women with PCOD:certain mind-body therapies, such as Cognitive Behaviour Therapy (CBT), meditation, and mindfulness-based techniques, have been shown to be successful in reducing psychological symptoms and emotional stress [72]. By helping patients recognize and change their negative thought patterns, cognitive behavioural therapy (CBT) reduces stress, anxiety, and depression [73].

Beneficial exercises for PCOD :

Manage Polycystic Ovarian Disease (PCOD), exercise is essential since it promotes weight management, insulin regulation, hormonal balance, and stress reduction. For women with PCOD, someforms of exercise can be especially helpful. Here are afew top exercises to think about.

Exercise for the Heart- Cardiovascular activities including jogging, cycling, swimming, and brisk walking are great for enhancing cardiovascular health and general fitness. These exercises aid in weight management, calorie burning, and insulin sensitivity enhancement—all of which are critical for women with PCOD.

Strength Training- Building muscle mass is aided by strength training and resistance exercises like lifting weights or utilizing resistance bands. Even when at rest, this kind of exercise helps the body burn more calories by increasing metabolism. Strength exercise also helps control blood sugar levels and improve insulin resistance. It is recommended that women with PCOD participate in two to three strength training sessions each week.

Yoga - Because it improves flexibility, lowers tension, and encourages relaxation, yoga is strongly advised for women with PCOD. Additionally, some yoga poses might help balance hormones and stimulate the ovaries. Particularly helpful pose includes Adho Mukha Savasana (Downward Dog). Frequent practice can help control weight, lower anxiety, and increase blood circulation. Yoga is a daily practice that emphasizes deep breathing and mind-body connection.

Pilates - Pilates can be especially helpful for enhancing posture, lowering stress levels, and conditioning the pelvic and core muscles since it blends flexibility training with strengthening movements. Pilates is perfect for women who could have joint pain or stiffness because of PCOD because it is quite easy on the joints. This can lead to a more balanced hormonal profile and enhance general well-being.

HIIT, or high-intensity interval training - It has been demonstrated that HIIT workouts, which alternate brief bursts of intense exercise with rest intervals, enhance insulin sensitivity and facilitate efficient fat burning. Women with PCOD can adapt these exercises to make sure they are safe and suitable for their level of fitness. Frequent HIIT sessions can aid in weight management and hormone balance when paired with strength and cardio training.

Walking -is a straightforward yet efficient type of exercise for people who are new to exercising or who are coping with PCOD-related symptoms including weariness. Walking can assist sustain physical exercise without putting too much strain on the body, especially when done outside. Walking every day can help with weight management, stress reduction, and circulation improvement.

Exercises for Flexibility and Stretching - Frequent stretching and flexibility exercises can enhance mobility, reduce stress, and improve muscular function.Stretching improves muscular recovery following other types of exercise and aids in the release of stored tension. Incorporating stretching into regular routines or post-workout regimens can enhance muscular health and flexibility.

Exercise Advice for PCOD-Affected Women Increase the length and intensity of your workouts gradually after starting out slowly. Make consistency your priority and try to get in at least 30 minutes of exercise most days of the week. Attain a balanced level of fitness, mix up your aerobic, strength, and flexibility routines. Especially if you are new to exercising, pay attention to your body and modify your routines if you feel uncomfortable.

Women with PCOD can control their symptoms, enhance their general health, and lower their chance of problems like diabetes or heart disease by making regular exercise a part of their routine. Before beginning a new fitness regimen, always get medical advice, particularly if you have underlying health issues[23].

II. CONCLUSION

Worldwide, many women suffer from PCOD, a prevalent but treatable disorder. Women with PCOD can control their symptoms and maintain healthy, satisfying lives with the right diagnosis, prompt treatment, and lifestyle changes. Preventing long-term health problems requires early intervention, particularly when it comes to treating hormonal abnormalities and their associated repercussions. Do not be afraid to seek professional assistance if you or someone you know is experiencing PCOD. With a staff of skilled gynaecological and endocrine doctors .

PCOD is a chronic illness that necessitates a comprehensive management strategy that includes stress reduction, exercise, medication, and dietary adjustments. For an accurate diagnosis and course of therapy, it is imperative that you speak with a PCOD specialist physician in your area if you are having trouble solving PCOD problems.

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