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Review Article

Polycystic ovarian disease: Preventive approach

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ABSTRACT

Polycystic Ovarian Disease PCOD is an important hormonal disorder occurring in girls and women during their teenage / reproductive age. Most of the times it is presented in the form of enlarged ovaries with small cysts on outer edges. The process of ovulation is disturbed in the patients of PCOD, most of the times the menstrual cycles are either irregular or less or absent and it may have many future concerns like infertility, hormonal imbalance, psychological disturbances etc. As per the Indian ancient medical science of Ayurved any disease if diagnosed early, especially in the premordial stage i.e before its appearance or start, it can be cured and the future complications can also be prevented. The main principle is 'prevention is better than cure', and to maintain equilibrium in a healthy person (to prevent oneself from any disease). It is a need of an hour to study and understand about PCOD using both the available sciences ancient and modern and to find out the natural measures, natural solutions like ayurvedic lifestyle management for the prevention of PCOD.

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1. Introduction

Polycystic Ovarian Disease (PCOD) also known as Polycystic Ovarian Syndrome (PCOS) is a very common but very important hormonal disorder (endocrine disorder) in girls and women from the age of menarche to menopause and the percentage is 10%¹ of all the endocrine disorders. On the basis of Rotterdam criteria² and androgen excess society³ criteria for PCOS two out of three characteristics must be present for a diagnosis of PCOS: hyperandrogenemia, oligo-or anovulation and Polycystic Ovaries. PCOD often starts very early but it is usually diagnosed very late. There is a common tendency of negligence in the society on this very important topic. Years together girls and women avoid going for the consultation unless they suffer some serious issue like cosmetic problems such as hirsutism or obesity or infertility.

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By the time the most important years of the initial stage management have gone. Instead of this if the girl having any of symptoms seek medical advice on time, most of the gynecological complications may not occur in future. Rather the need of today's era is to create awareness for the prevention of PCOD, prevention of obesity and irregular menstruation. In case of PCOD if the efforts are taken right from the childhood to prevent this disease manifestation in future then many of the complications like infertility will be automatically prevented. If a girl / woman is not suffering from PCOD, obviously her psychological health, gynecological health, physical health will be maintained which ultimately helps in the upliftment of society.

2. Aims and Objectives

1. To study early and late causes and symptoms because of PCOD.
2. To find out the ways for the prevention of PCOD.

3. To enlist the protocol for the prevention of complications of PCOD.
4. Study holistic approach for PCOD prevention.

3. Materials and Methods

Modern and ayurvedic authentic information is collected on this topic of PCOD. Detail study of information about ideal lifestyle management of a baby girl right from her birth till her adolescence is carried out from various books. Research papers published on internet are also studied. Ancient Ayurveda knowledge is studied from the authentic old texts viz Bruhatrayi and Laghutrayi (Samhitas).⁴⁻⁶ Also the textbooks of the course of batchelor and masters of ayurvedic medicines are studied. Yoga books are studied and after that a protocol of do's and don't's is prepared for the prevention of PCOD from teenage. The reasons of everything to be followed are also mentioned using ayurved books references.

4. Discussion

The diagnostic criteria is already explained in the introduction. Also, mentioned is often patients approaches late and so the diagnosis is delayed. One of the major reasons for women with PCOD to seek healthcare is issues with fertility and assisted reproduction is common in PCOD.⁷ In addition to infertility and hyperandrogenemia girls and women with PCOD often exhibit hirsutism, depending on the level of androgens and metabolic characteristics that are associated with cardiovascular disease, such as obesity, insulin resistance, type 2 diabetes mellitus, dyslipidemia, endothelial dysfunction, and elevated blood pressure.^{8,9}

Approximate 50 % women with PCOD exhibit increased microalbuminuria¹⁰ that was found to be closely associated with increased diastolic blood pressure and area under the curve for an oral glucose tolerance test.

These all things play an important role in the formation of protocol for prevention of PCOD since childhood.

5. Aetiological Factors of PCOD

PCOD is a medical condition in which the woman ovaries produce immature or partially mature eggs in large numbers and over the time these become cysts in ovaries.

The exact cause isn't well understood but may evolve a combination of genetic and environmental factors. Though the genes, insulin resistance and Inflammation have all been linked to excess androgen production, there may be several other risk factors for PCOD viz improper food management in a girl's infantile stage, premenarche stage.

Metabolic syndrome is also linked with PCOD. Up to 80 percent of women with PCOS are overweight or have obesity. Both obesity and PCOS increase the risk of Diabetes, High blood pressure, low HDL (GOOD)

cholesterol, high LDL (BAD) cholesterol. Together these factors are called metabolic syndrome which is linked with cardiac diseases (heart attack), Diabetes, stroke etc.

Improper nutrition, stress, depression are the risk factors for PCOD and vice versa.

According to ancient Ayurveda texts, the PCOD is a gynecological disorder so the aetiological factors for the diseases of reproductive system are applicable here. This is explained in details under the topic of "Yoni-vyapad"¹¹ Thus the aetiological factors of "Yoni, -vyapad" can be applied here, and they are as follows:

1. *Mithyachara*: wrong regime:
2. *Mithya Ahara*: Abnormal diet: Vata vitiating food, all three dosha vitiating diet. Consumption of unwholesome, unhygienic, unclean food, incompatible food and food combinations.
3. *Mithya Vihara*: Abnormal, improper lifestyle, sedentary lifestyle, not following rajaswala paricharya (do's and don't's during menstruation) Suppression of natural urges means Vegadharan.
4. *Pradustha Artava*: Abnormalities in menstrual cycle, menstrual blood, hormones.
5. *Artava Dosha*: Menstrual abnormalities various reasons, Ovarian functional abnormalities, Hormonal imbalance.
6. *Bija Dosha*: Genetic Mutations.
7. *Daiva* (Karma).

5.1. Early symptoms / premordial symptoms

Of PCOD: from the observation and ancient texts study:

- Starting slow increase of abdominal girth in a girl child.
- Skipped or absence of menstruation (Amenorrhea).
- Abnormal age of menarche.
- Start of increase in hair growth on face and body including chest, back, arms and, belly.
- Mood swings

5.2. Late symptoms and complications of PCOD

- Irregular menstruation (Oligomenorrhea).
- Absence of menstruation (Amenorrhea).
- Sometimes heavy menstrual bleeding.
- Hirsutism (excessive and unwanted hair growth on chin, arms, chest, back etc).
- Acne
- Hair loss (Hair on the scalp gets thinner and fall down)
- Skin darkening (Neck, groin, under the breast).
- Anxiety, mood swings, Irritability, Anovulation or irregular ovulation,
- Complications include mainly Infertility and also
- Abnormal uterine bleeding
- Hypertension (High blood pressure)

5.3. Type 2 diabetes

Preterm labor and premature birth

Metabolic syndrome (risk for high blood sugar, high blood pressure, heart disease, diabetes, and stroke)

NASH (Non-alcoholic steatohepatitis)

Depression (Many women end up experiencing depression and anxiety due to unwanted hair growth and other symptoms)

Sleep apnea (More common in women who are overweight, causes repeated pauses in breathing during the night, which interrupt sleep)

Endometrial cancer (Due to thickened uterine lining)

Miscarriage (spontaneous loss of a pregnancy).

So to understand each and every word mentioned above are linked with each other. What comes before and what disease manifestation is earlier may not be clearly understood in the first visit of patient.

Of course the history taking, case taking part plays a very important role here.

Suppose a pcod patient's mother reveals that she has fed her daughter artificial food, milk since birth, or used to overfed in the later age also and that too with a sedentary lifestyle then this may also be a very important causative factor that is already explained under the title mithyachara in Ayurved.

6. Preventive Aspect

The protocol and management for prevention is same in case of pcod and pcos. Considering the repercussions of PCOD it is always better to prevent this disease in each girl. According to Ayurveda principles it is clearly said that: maintain the equilibrium and overcome the disease when its premordial symptoms start. The meaning of Ayurved science AIM(12) is to maintain the health of an individual. When it comes to an ideal health it also refers to the healthy mind along with healthy body.

The prevention starts from the pregnancy¹² itself. Ayurveda explains a specific antenatal care, special regimen which is a special care during pregnancy entitled under "Garbhini Paricharya". The newborn baby girl should be born healthy, with a proper body weight. Mother's antenatal management plays an important role. For example if a mother is suffering from GDM (Gestational Diabetes Mellitus) the newborn baby girl is at risk since then, and she should be given more attention in her weight and other developments. Garbhini paricharya in Ayurved explains a special nine monthly diet during pregnancy as the food is the best source of nourishment as well as medication for the pregnant woman. Also, there are some simple readily available herbs advised for a couple planning a pregnancy and also to the would be mother during pregnancy. This all is unique speciality of the Indian health science of Ayurved and it should be followed for the best outcome and healthy

and normal baby.

6.1. Now immediately after birth

In all the newborn baby girls artificial powered food should be avoided.

Since childhood girls should be kept happy and relax, their stress management is a responsibility of not only their parents but also of everyone in the society.

Keep keen watch on child obesity and prevent it by all means.

Importance of exclusive breastfeeding need to emphasize in the society.

When the winning is started, top food should be given only by demand and not by force. The future problems of child obesity, PCOD, psychological and cardiovascular diseases in children has the root cause lying in this forceful feeding to the baby.

Top milk feeding should ideally be avoided but if there is no option sometimes then atleast it should be confirmed that the milk is pure, unadulterated and completely pasturized without any hormonal remains in it. There are many good options available instead of top milk viz fresh home made soft semi-solid or liquid recipes like rice and grains porridge without milk but with a pinch of turmeric, asafoetida and cumin in it. Leafy vegetables, seasonal fresh fruits like mash banana, boiled apple etc recipes can also be suggested. This may be planned for first year and under the proper medical supervision and guidance.

After one and half years of age when the girl enters in her kshirannada and later on in the annada avastha¹³ stages: food should be planned properly.

Each girl child's "prakriti examination"¹⁴ should be carried out and documented along with her other health parameters.

The planning of food and physical activity should be done thinking of prakriti.

Dairy products should be completely avoided especially in the khapha prakriti girls.

Various awareness programs should be planned to educate kindergarten and primary school girls and their parents about the over eating, weight management, prevention of child obesity, stress management etc.

Awareness programs should be arranged for the pre menarche girls and their parents and through those programs the authentic "menstrual regime — Rajaswala paricharya do's and don't's during menstruation and before and after too: in all the 3 stages of menstruation"¹⁵ should be taught.

Modified Rajaswala paricharya suitable in today's modern era but based on Ayurvedic principles is a need of an hour.

Menstrual protocol, menstrual regime — Rajaswala paricharya is the pride of India and it should be tactfully utilised for the prevention of PCOD and even other gynecological disorders.

In childhood already kapha predominantly present in the girls' body and in that period if she is overfed and that too with sweet, heavy meals and dairy products she will suffer from kapha vitiation¹⁶ and kapha diseases like obesity, pcod.

It would be helpful if everyone understands the relationship between doshas (vata, pitta and kapha) and menstruation and plan a daily regime accordingly.

During menstruation food should be light, warm, slightly sweet, slightly oily, made in pure cow's ghee. The sweetness heaviness would be according to the prakriti.

Frequent small satvik meals are advised but depending upon the agni¹⁷ (digestive fire) capacity.

Dry, frozen, pocket food should never be consumed. Late night awakening should be avoided too. It is observed that in today's young teenage generation late night awakening with improper unhealthy food habits is becoming very common and to find out exact percentage of these habits and PCOD the separate research should be carried out in both the rural as well as in the urban areas.

Throughout the month a girl should be physically active. Sedentary lifestyle should not be there. Nutritional and timely food is advised. Awareness about meals is needed in the girl's family. Many times it happens that though the child had tiffin or lunch in school, after an hour or so when she enters home the forceful feeding by the mother or grandmother or nanny starts. This results in indigestion and accumulation of toxins which creates further complications like pcod.

Since childhood regular "Yoga"¹⁸ Asana coaching would be beneficial:

1. Pranayam
2. Padmasana
3. Surya namaskar
4. Sarvangasana
5. Bhujangasana
6. Naukasana
7. Kapalbhata
8. Setu Bandhasana
9. Balasana
10. Vakrasana
11. Janusirasana.

7. Conclusion

Preventive aspects in polycystic ovarian disease includes all the above holistic, natural lifestyle management. If it is followed regularly with a cool mind and with full concentration then definitely one would be successful in prevention of PCOD, PCOS, infertility, depression etc.

To lead a successful society healthy girl children is the need of an hour.

Special regimen explained in Ayurved viz Garbhini paricharya, Rajaswala paricharya, Dincharya and Rutucharya should be followed sincerely for the prevention of PCOD.

Nutritional, wholesome, warm, home cooked fresh diet, regular exercise, proper sleep, addiction free lifestyle would certainly be helpful.

8. Source of Funding

None.


9. Conflict of Interest

None.

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