

DEALING WITH POLYCYSTIC OVARY SYNDROME (PCOS): PSYCHOLOGICAL CONSIDERATIONS

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ABSTRACT

Polycystic ovary syndrome (PCOS) has stigmatizing physical symptoms as well as psychological disturbances resulting in reduced Quality of Life and psychosocial well being. From an Ayurvedic point of view, *medo vaha sroto dushti*, increased *sleshma*, presence of *ama*, *rasa dhatvagni mandya*, derangement in ojus, vitiations of *vyana* and *apana vata* can be understood in the pathology of PCOS. These factors may be the reason for the association of physical as well as psychological symptoms. Declined health in physical, psychological and social levels obviously hampers the goals of life (*purushartha*) resulting in reduced QOL and psychosocial well being. Utilizing the knowledge of common factors for the development of physical and psychological factors, better choice of medicines and *satvavajaya cikitsa* can be ensured in PCOS.

Keywords: Quality of life, psycho social wellbeing, Ayurveda, *Purusharta*

INTRODUCTION

Polycystic ovary syndrome (PCOS) is an endocrine disorder of clinical and public health importance. PCOS has exclusive clinical implications including reproductive (infertility, hyperandrogenism, hirsutism), metabolic (insulin resistance, impaired glucose tolerance,

type 2 diabetes mellitus, adverse cardiovascular risk profiles) and psychological features (increased anxiety, depression and worsened quality of life)¹. In recent years, there is a sharp rise in the incidence of PCOS among reproductive aged women in India²

In addition to menstrual irregularity, visible cosmetic problems, infertility and metabolic consequences, the psychological sequel of PCOS are getting major concern by the scientific community. Decreased Quality of Life (QOL) and mood disturbances including symptoms of depression, decreased sexual satisfaction, increased anxiety, and problems with feminine identity and interpersonal relationships have been reported³.

Recent researchers introduce PCOS as a model to study the psychosocial factors involved in the symptom perception as fertility is an important biological function, but among Homo sapiens, reproduction is invariably related with culture and psychosocial factors⁴. Pathological as well as voluntary infertility, and the irregular menstruation minimizing reproductive success, are in contrast to the crucial biological function and are expected to produce immense psychosocial stress. Some other important symptoms like hirsutism, android obesity may interfere with female self perception and are in contradiction to the culture dependant beauty ideals. The psychological and social life of a woman is thus hampered and the expected roles are not carried out properly.

Different terminologies for 'female' point to the social and biological role of female gender in common. For example, the word '*stree*' has derived from '*styayati garbho*' meaning where the embryo attaches firmly for growing which denotes the vital biological role. Some other synonyms like, '*vanitaa*' (those who depends on man), '*naaree*' (those who nourishes man by means of household activities) denote the social role⁵. In '*Anan'ga ran'ga*', the ancient text on Sexology, the desirable qualities of a bride

include calm temperament (*s'aantha*), less sleep and less lassitude (*alpa nidraalasa*), and with good conduct (*seelaad'hya*). Those with increased sleep, sorrow, unpleasant speech are not desirable. Hirsutism (*sa s'mas'ruka lomas'a*) is highly criticized as a defect of bride (*kanya dosha*)⁶. Even with the time gap of centuries, the concepts of Indian society regarding the 'beauty of body and mind' of females are not changed much.

PCOS and feminine psyche:

Historically, psyches of women have been framed by the customary cultures as too emotional, irrespective of the geographical and ethnic variations across the globe. Women have been scrutinized for their delicate nature and were labeled as weak and 'hysterical'. But it is obvious that, women have some different healthcare needs than do men; they approach relationships and developmental tasks differently and often struggles with self esteem, body image and sexuality concerns⁷. PCOS predominantly affects women of reproductive age who are likely to be concerned with external appearance, menstrual cycle abnormalities, fertility and sexuality. The internal hormonal environment makes her prone for emotional distress. This distress invariably worsens the symptoms of PCOS and a decline in the Quality of Life⁸. These negative emotions drag her from an effective social interaction resulting in reduced psychosocial wellbeing. Thus, PCOS is an attention-grabbing model for studying feminine psychology in the occasions of identity and role crisis.

From an Ayurvedic point of view, the biological symptoms and psychological features have

some common axis. As health (*arogya*) is invariably related to the personal as well as the social roles of *Purushartha* including virtue (*dharma*), wealth (*artha*), drives and needs (*kama*) and freedom (*moksha*), the social axis of PCOS could be associated with the same.

Key factors in the patho- physiology of PCOS:

PCOS is very well understood as a 'prediabetic stage' because of the metabolic consequences of Insulin resistance with compensatory hyperinsulinemia. In a recent in vivo study of insulin action on glucose metabolism in PCOS women it is seen that environmental factors play a major role in the pathogenesis of defects in insulin mediated glucose uptake. Hyperinsulinemia is thought to result in increased androgen biosynthesis and decreased level of Sex Hormone Binding Globulin (SHBG) and plays a major role in the pathogenesis of hyperandrogenism. Insulin has been shown to indirectly stimulate ovarian androgen production by augmenting luteinizing hormone (LH) - stimulated ovarian androgen biosynthesis. The pathogenesis of PCOS in Ayurveda may be analyzed as generalized increase of *kapha* with predominant increase of unctuousness (*snigdha*) and heaviness (*guru*) property wise. There is obvious vitiation of fat metabolism (*medo dhatu*). The vitiation of channels of lipid tissue, obesity and the premonitory symptoms of diabetes has been included⁹. The description of Diabetes mellitus in Ayurveda due to obscured dosha (*Aavarana janya madhumeha samprapti*)¹⁰ seems to be a good model for explaining the etiopathogenesis of PCOS. As omentum is the root of origin of channels of lipid metabolism,

its vitiation often leads to abdominal extra adiposity. Obstruction to channel of menstruation (*aartava vaha srotas*) is also characterized in PCOS which is obvious by the absence of menstruation¹¹.

Recent studies have established that PCOS is characterized by chronic inflammation along with insulin resistance. But the particular underlying triggers for these two key biochemical disturbance is obscure. This original archetype in PCOS etiology suggest that disturbance in bowel bacterial flora (Dysbiosis of Gut Microbiota- DOGMA) brought about by a poor diet creates an increase in gut mucosal permeability with a resultant increase in the passage of lipopolysaccharide (LPS) from gram negative colonal bacteria into the systemic circulation. The resultant activation of the immune system interferes with insulin receptor function, increasing serum insulin level, which in turn raises the ovarian androgen production and interact with development of the follicles¹².

In Ayurvedic concepts, the digestive fire of the tissue metabolism for the first tissue (*rasa dhaatvagni*) is responsible for producing menstrual fluid from the essence of food (*aahara rasa*). But when a lady conceives, the production of menstrual fluid is arrested and the pathway for breast milk is activated by the same *dhaatvagni*¹³. This particular shift of functioning of *rasa dhaatvagni* happens in PCOS which will result in reduced ovulation and menstruation (*Raja*). It is worthy to denote that elevated levels of breast milk producing hormone Prolactin is seen in PCOS. At a subtle level, warmth (*aagneya bhava*) of men-

strual process *aartava* is converted into frigidity (*soumya bhaava*).

Even though the status of digestive fire (*jat'haragni*) is increased physiologically, owing to the psychological factors like excessive thoughts, grief etc the food will not be digested properly. This leads to production of indigested material (*aama*). This *aama* will circulate in the body giving rise to increase of *kaphadosh* and *medo* dhatu due to their similarity in properties. This process is easy to understand in the perspective of DOGMA, which was explained earlier. When the *kapha dosha* causes a hindrance (*aavarana*) to the normal functioning of *vata*, it results in delayed or absence of menstruation.

The psychological sphere:

Perceived psychological stress in PCOS could have psychosocial and/or pathophysiological causes. Visible features, such as hirsutism and acne¹⁴, or potential consequences, such as infertility and obesity, are perceived as stigmatizing by many women and could cause distress¹⁵. Causes of PCOS or its physiological consequences could also overlap with the causes of depression. For example, emotional disorders have been linked to hyperandrogenism, obesity, diabetes, metabolic syndrome, and low-grade inflammation. A comprehensive meta-analysis of 28 comparative studies on emotional disorders in PCOS to date says that higher emotional distress was consistently found in PCOS patients in depression, anxiety and the QOL in the emotional domain measures¹⁶.

Psycho-neuro-endocrine axis of PCOS:

Studies suggest that emotional disorders in PCOS patients are associated with the stimulation of the HPA axis. The HPA axis connects the neurological functions with the endocrine system. This axis is stimulated by various factors like stress, depression, physical activity etc.

Stress often causes the activation of HPA axis, at the same time suppresses the Hypothalamo pituitary gonadal (HPG) axis. An elevated level of ACTH is observed in PCOS women, which may be triggering the cascade of reactions mediated by cortisol. ACTH may also stimulate the production of androgens from adrenal cortex. Androgens are natural hormones in the female and are important in the initiation of the growth spurt associated with puberty, maintenance of bone mass before menopause and are responsible for the female libido. They also act as substrates for ovarian estrogens, and any disturbance of this balance contributes to follicular atresia, anovulation and corpus luteum defect. Seborrhea, acne, hirsutism and androgenic alopecia are all cutaneous manifestations of hyperandrogenism. Persistently elevated levels of androgens in women have a positive correlation with long term metabolic diseases like hyperlipidaemia, atherosclerosis, non insulin dependent diabetes mellitus and hypertension.

In the recent years, it has been discovered that the adipose tissue containing adipocytes which produce a variety of proteins with hormonal functions, collectively known as adipocytokines. Leptin is an adipocytokine which act as a signaling factor from adipose tissue to the central nervous system, thus regulating food

intake and energy expenditure. Leptin may directly affect glucose and fat metabolism. Ghrelin is a peptide hormone produced in the stomach and its major binding sites located at hypothalamus. It is a stimulant of growth hormone. Ghrelin enhances appetite, reduces fat utilization and causes adiposity. Rouch et al demonstrated that stress causes an increase in ghrelin and a proportional increase in cortisol levels. It also has a stimulatory effect on ACTH. Due to anxiolytic and antidepressant effects of ghrelin, it is proposed that this help the body deal with stress and anxiety associated with it¹⁷.

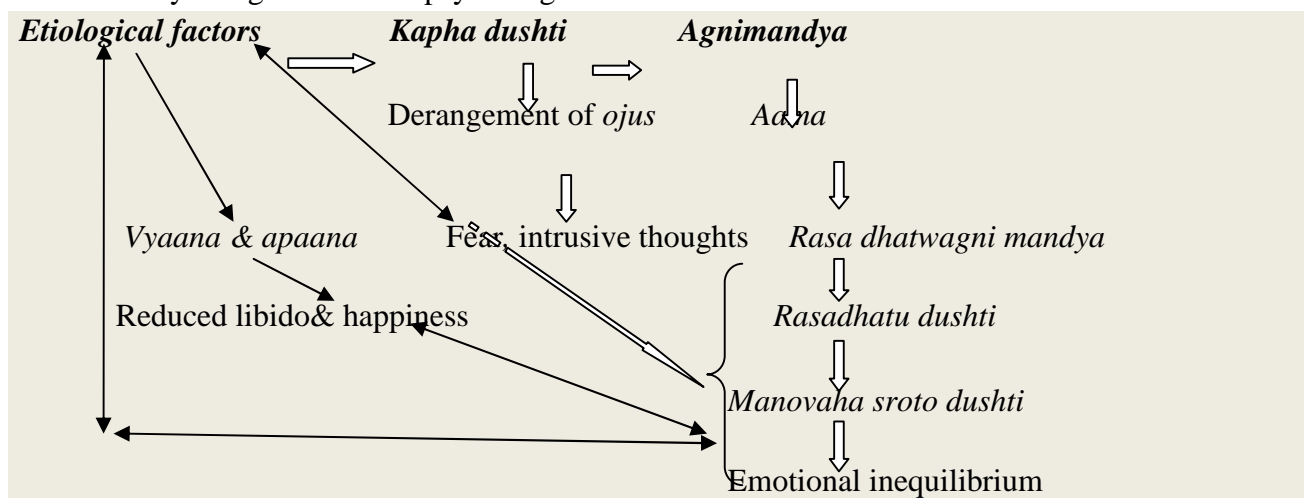
In the context of treatment of *prameha*, Aa-caarya Sus'ruta depicts that all disorders of *s'ukra* and *prameha* are caused by two varieties of vata named as *vyaana* and *apaana*. Dalhana clarifies that *s'ukra* denotes reproductive tissue applicable to both male and female¹⁸. In *Asht'aan'ga hr'daya*, reasons for vitiation of *vyaana* mentioned include increased thinking, excessive fear and depression. The resultants of vitiation of *vyaana* are problems with libido, reduced happiness, reduced strength etc and fever due to mental afflictions¹⁹. These symptoms can be very well

demonstrated in PCOS. Here, it is clear that the HPA axis function is controlled by *vyaana* and maintained by *apaana*.

Derangement in the tissue metabolism in *rasa dhatu* will leads to its vitiation further turn to contribute to the vitiation of pathways of mental activities (*manovaha srotas*) due to their common origin from heart (*hr'daya*). Similarly, due to excessive thinking (*cinta atiyoga*) *rasa dhaatu* gets vitiated vice versa.

Derangement in the vital principle (*ojus*) is also obvious in PCOS. Normally functioning *kapha* (*praakr'ta sleshma*) enhances *ojus* and property wise these two are much similar. In contrast to this condition, the vitiated *kapha* (*vikr'ta sleshma*) is the cause for many diseases²⁰. As *ojus* is the pivot of synchronizing physical and psychological functions, derangements in psychological attributes become significant. Thus PCOS women are prone for fear and depression (*bibheti*) and intrusive thoughts and anxiety (*abheekshnam dhyayate*). The role of ghrelin gives a clue to the functions of *ojus*. Summary of physiological factors attributing to psychological afflictions in PCOS are represented in the chart no: 1

Chart 1: Physiological basis of psychological afflictions in PCOS:



The Social sphere: Psychosocial factors and QOL:

Women’s developmental and relational tasks are focused upon caring for others and seeking relational support from them. Throughout their life span, women prefer to gather strength from their connection with others and bring this relational capacity to both family and work settings.

Women are likely to be more influenced by the social and cultural standards laced on them, when compared to man. Along with this, women are highly critical about their abilities and appearance. An excessive focus on appearance can contribute to the development of eating disorders, a distorted body image or withdrawal from social activities. Self doubt,

shame and reluctance to appear self-confident often limit women from asserting themselves in academic, social and work settings. Women often struggle with guilt and shame over their sexual needs or sexual orientation, confusing the portraits in the media with what they know to be true about them⁷.

Deprived needs in women with PCOS

Due to the physiological vulnerability, a range of psychological symptoms are produced resulting in impairments in social functioning. Emotional abnormalities mentioned in Ayurvedic science could be frequently traced in PCOS. The reasons for the same vary from biological reasons to social reasons as mentioned earlier. A list of psychological factors and their possible contributory factors and expression of emotions are listed in the Table 1:

Table 1: Major emotions observed in PCOS women:

Emotion	Possible contributory factor	Expression
<ul style="list-style-type: none"> • <i>Krodha</i> (Anger) • <i>Eershya</i> (Intolerance) • <i>Dweshha</i> (Aversion) 	<ul style="list-style-type: none"> • Trait factors • Less stress tolerance • Poor coping skill 	<ul style="list-style-type: none"> • Hostility • Poor inter personal relationships • Paranoid ideations

<ul style="list-style-type: none"> • <i>S'oka</i> (Helplessness) 	<ul style="list-style-type: none"> • Symptoms – hirsutism • Consequences- infertility etc 	<ul style="list-style-type: none"> • Depression
<ul style="list-style-type: none"> • <i>Bhaya</i> (Insecurity feeling) 	<ul style="list-style-type: none"> • Trait feeling of insecurity 	<ul style="list-style-type: none"> • Phobia • Phobic anxiety
<ul style="list-style-type: none"> • <i>Vishada</i> (Anxiety and depression) 	<ul style="list-style-type: none"> • Reduced self esteem • Infertility • Health consequences 	<ul style="list-style-type: none"> • Anxiety • Obsessions
<ul style="list-style-type: none"> • <i>Kaama</i> (Desires) 	<ul style="list-style-type: none"> • Trait factors • Socio-economic factors 	<ul style="list-style-type: none"> • Eating junk food • Sedentary habits • Sexual dissatisfaction
<ul style="list-style-type: none"> • <i>Dainya</i> (Hopelessness) 	<ul style="list-style-type: none"> • Non accomplishment of female identity 	<ul style="list-style-type: none"> • Avoiding social activities

Purushartha of women: achieving the personal and social goals

Considering the basic *stree dharma*, the biological gender role of procreation, the events like regular menstruation, pregnancy and sexual act are important. Meaningful contributions to the family and society- *artha* of females are also altered by the physical symptoms and emotional instability. The perception of altered self image contrasting to the conventional beauty ideals affects all the three goals - *dharma*, *artha* and *kaama*. This will put a barrier made of restrictions to the fourth goal- *moksha* i.e. freedom.

Evidence-based methodology workshop on polycystic ovary syndrome had identified QOL as an important area of concern in clinical as well as research activities. The Consensus concluded that increased prevalence of psychological disorders in women with PCOS was evident; hence psychological issues should be considered in all women with PCOS. It is unclear if this increased prevalence is due to the disorder itself or its manifestations (e.g., obesity, hirsutism, irregular menses, and infertility). Based on the consul-

tation and the patient’s perception of her problems, appropriate counseling and intervention should be offered²¹.

In the treatment aspect, medicines having common indication in reproductive system and psychological ailments may give better results in PCOS. Similarly, *satvavajaya cikitsa* focusing on attainment of *purusharta* will also help to manage the symptoms.

CONCLUSION

Psychological morbidity is highly associated with PCOS and it has immense impact on symptom presentation as well as the social interactions of the affected women. Even though direct reference is not available, from different contexts Ayurveda offers a common ground to address the physical and psychological features of PCOS. *Satvavajaya chikitsa* to provide understanding about the personal and social roles will also be helpful.

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