

“Study of ‘PCOSQ’ (HRQoL) in *Ayurvedic* physiological perspective”

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ABSTRACT

POLY CYSTIC OVARIAN SYNDROME is a syndrome hampering reproductive life of women. As this disease seems to be very simple but its complications on women’s health, fertility and psychological status are severe. PCOS is not directly mentioned in *Ayurveda* classics but it has its glimpse in *samhita*. PCOS has got metabolic, endocrinal, psychosomatic, reproductive, cosmetic components.

PCOSQ is a standard and valid questionnaire used in study of PCOS individuals worldwide. HRQoL i.e. Health Related Quality of Life is again an integral tool of observational studies to assess health of an individual in a Holistic manner. Present study deals with *Ayurvedic* female reproductive physiology with PCOSQ as a tool. Use of PCOSQ (HRQoL) in prediagnosed participants of PCOS can add value to the discussion of *Ayurvedic* interpretation of PCOS.

KEY WORDS: Poly cystic ovarian syndrome, Health related quality of life, Poly cystic ovarian syndrome questionnaire

INTRODUCTION

Polycystic ovarian syndrome is abbreviated as PCOS. PCOS is an important syndrome seen in society today. PCOS has got metabolic, endocrinal, psychosomatic, reproductive, cosmetic components in its pathology.

PCOS is a condition in women characterized by irregular or no menstrual periods, Acne, Obesity and excess hair growth (Hirsutism). It is a disorder of chronic abnormal ovarian function and Hyperandrogenism (abnormally elevated androgen levels). It affects 5-10% of women of reproductive age. PCOS is also called the Stein-Leventhal syndrome.ⁱⁱ

PCOS is not described word to word in *Ayurveda* Classics. It does not correlate the single condition or a single disease but the symptoms bear a resemblance to, *Anartava* (Amenorrhoea), *Yonivyapada* (Anatomical and Physiological disorders of Reproductive system) like,

ⁱⁱⁱ*Abeejata* (Anovulation), *Arajaska* (Oligomenorrhoea due to vitiation of *Vata*), *Lohitaksaya* (Oligomenorrhoea due to vitiation of *Vata-Pitta dosa*), *Vandhya* (Infertile), *Puspaghni Revati* (Idiosyncratic anovulatory menstruation), *Rajodusti*, *Aartavadusti* (Menstrual flow disorder due to vitiation of *dosa*).

PCOS was first associated with the condition of Oligo-amenorrhea (menstrual abnormality), Obesity, and Hirsutism by Stein and Leventhal in 1934, then again in 1990, A National Institute of Health (NIH) consensus conference committee considered two main criteria: Oligoamenorrhea and Hyperandrogenism.^{iv}

According to Rotterdam 2003^v criteria, PCOS could be diagnosed, by two of the following three features: 1) oligo- or anovulation, 2) Hyperandrogenism or 3) Polycystic ovaries

1. Oligo- or anovulation Oligomenorrhea is a condition in which a woman has infrequent menstrual periods, Women who regularly go more than 35 days without a period, with only four to nine periods per year, may have oligomenorrhea.

2. Hyperandrogenism: It is characterized by excessive levels of male sex hormones, such as testosterone, in the female body. In females, the condition usually presents as a combination of Acne, Alopecia (hair loss on the scalp), Hirsutism (increased body and/or facial hair).

A. Acne: It has been postulated that androgen levels within the skin are more important mediators of acne than circulation. Increased local androgen bioactivity, resulting in the hirsutism and acne seen in PCOS women.

B. Alopecia: Also known as Androgenetic Alopecia, this female pattern hair loss is characterized by a loss of hair density at frontal and vertex regions of the scalp (the top). Hair ultimately becomes thinner and shorter in these areas.

C. Hirsutism: Hirsutism^{vi} is the excessive growth of facial or body hair on women. Hirsutism can be seen on the face, chest, lower abdomen, back, upper arms, or upper legs. 3. Polycystic Ovaries: PCO refers to an ultrasound scan image of the ovaries that appear to be polycystic (ovaries containing high density of partially mature follicles).

PCOSQ (HRQoL) Questionnaire helps to collect maximum information from participants. HRQoL questionnaire are the modern tool for observational studies. HRQoL covers psychosomatic components. Thus already standardized questionnaire (PCOSQ)^{vii} (HRQoL) is selected for the present work.

As stated previously PCOS is an inclusive phenomenon which encompasses reproductive, metabolic, cosmetic, endocrinal, psychosomatic components; however PCOS is mainly endocrinal & metabolic issue. Interpretation of PCOS in Ayurveda is needed to be done at the level of *dosha, dhatu, mala* which are basic physiological entities.

Inability of the body to rupture the grown follicle indicates diminished *agni* principle. According to Ayurveda *agni* principle which acts at *dhatvagni & bhutagni* levels (thus is responsible for rupture or unrupture of a follicle.), ultimately depends on *jatharagni*.

Scholars^{viii} have reported a particular relationship of *Agni* with *mana & Rasa dhatu*, as *Rasa* is an immediate product of *ahar rasa* from *ahara* after action of *jatharagni*. Thus a hypothesis of relation between status of *agni* & Female reproductive physiology / PCOS can be structured.

PCOSQ:

^{ix}PCOSQ is a standard and valid questionnaire used in study of PCOS individuals worldwide. HRQoL i.e. Health Related Quality of Life is again an integral tool of observational studies to assess health of an individual in an Holistic manner.

The therapy of PCOS is usually focused on reducing its symptoms, this tool gives an access to measure the range of health related problems experienced by women with PCOS for use in clinical trials and natural history studies.

The design of the questionnaire was based on principles developed and successfully used in previous studies.

1. Both physical and emotional health should be measured.
2. Items must reflect areas of function that are important to women with PCOS.
3. Summary scores should be amenable to statistical analysis.

4. The questionnaire should be relatively short, simple, and capable of being self-administered

Questionnaire is based upon five domains on the basis of PCOS indices.

5domains: 26questions

1. Emotions= 8
2. Body hairs= 5
3. Weight=5
4. Infertility=4
5. Menstrual Problem=4

Discussion of PCOSQ is given below,

BODY HAIR

In hirsutism, while facial and body hair increases, scalp hair decreases. The possible explanation for this paradox is that, as *beejadusti* is one of the causative factors; if the *beejabhaga* of *paternal beeja* responsible for development of hair has been affected, the patients of PCOS may manifest the reversed hair pattern i.e. male pattern hair development and so hirsutism and baldness. The degree of appearance depends upon the degree of *beejabhaga dushti* which we can relate with *Jatharagni* as it plays an important part in Prakrt *beeja nirman*, According to *Dhatu Posan Nyaya*'s.

MENSTRUAL PROBLEMS

Since menstrual irregularities are the main symptoms of PCOS, the special etiology for *yonirogas*, apart from the general etiology, has been considered and among them *beejadusti* is also seen responsible for this disease. Role of *beejadusti* in PCOS is proved by modern science as they consider it as a genetically inherited disease. In *beejadushti*, the portion of the beeja, *beejabhaga* or *beejabhaga avayava*, which is responsible for the development of *artava*, is affected. It is well known that *artava* is *agneya* and *agni dusti* depletes the action of *agni* resulting into *pachana* and *parinam* abhava ultimately leads to *apakva artava*. a good quality of diet gives and excellent *ahar rasa* by which its *Prasad bhag* produces good quality of *artava* by *dhatu poshan nyaya*. Thus, *Jatharagni* is responsible for the *Prakrt artava nirmiti*.

EMOTIONS

'*Satva*' or the mental state of a person is the factor to which much more importance is given in *Ayurvedic* classics. Psychological factors i.e. *cinta*, *bhaya*, *krodha*, *soka*, *lajja*, *dvesa*, *dainya* etc. plays an important role in the onset of PCOS. These *mansika bhavas* mainly vitiates *vata dosa* and then vitiates *Agni*. As normal functioning *vata* and *agni* can be correlated with normal hormonal axis, this *vikrta vata* and *Agni* is the main causative factors for PCOS. '*Pragyaparadha*' can also be included under this heading. Works done due to improper knowledge (*ayathartha gyana*) is known as *pragyaparadha*. It is also responsible factor for *asatmya indriyarthasamyoga* and all psychological disorders which impacts the endocrine system. Any disturbance in endocrine system may leads to PCOS.

Stress increases hypothalamic activity of CRH (corticotrophin releasing hormone) and further it inhibits normal GnRH pulsatile secretion and ultimately anovulatory cycles occur. During stress the secretion of androgens from kidney also gets increased which adds the support in increasing the level of androgens. They are known as stress eaters as patients consume high calorie rich food in response to stress and store much fat in their body. This elevates the glucose levels and result in insulin resistance related PCOS.

INFERTILITY

Vandhya which is characterized by inability to conceive due to either anovulation or some other causes provides an unwritten sense of anovulation. *Susruta* states that in *vandhyayoni*, the *artava* is destroyed. Vitiating vata dosha is the main cause of *vandhya yoni vyapada*. Here, *nastartava* or anovulation is one symptom of the *vandhya*. Infertility is found associated with PCOS.

WEIGHT

Obesity or *Sthoulya* is described as an independent disease (*Medo roga*) or as a complication of some diseases. It is also given under the heading of *Samtarpana janya vyadhi*. *Sthoulya* is a *dusya* dominant *vyadhi* where *meda* plays a major role in pathogenesis. Screening the *nidanans* of *sthoulya*, all are mostly of *kapha* vitiating so *Kapha* gets vitiating by the ingested food having properties like *guru*, *madhura* etc., gets mixed with the *ahararasa*, converts into *ama* because of *mandagni* and manifests *atisthoulya* depending upon *medodhatu* causing its un-proportionate increase. This *medovridhi* adds to the pathogenesis of the disease by vitiating all *srotasas* except that of *meda* and leads to *vatavaiguniya*. *Acarya Caraka* said that the fat distribution in obese is on *stana*, *udara* and *sffika pradasha* which shows centripetal manner which is same as found in the obese patients of PCOS.

ⁱ L. CRONIN et.al. (1998) Development of a Health-Related Quality-of-Life Questionnaire (PCOSQ) for Women with Polycystic Ovary Syndrome (PCOS) Journal of Clinical Endocrinology and Metabolism Vol. 83, No. 6

ⁱⁱ Textbook of gynaecology by d.c.datta

ⁱⁱⁱ AN EFFORT TO UNDERSTAND PCOS IN AYURVEDA CONTEXT Priyanka Sharma et.al. AYUSHDHARA An International Journal of Research in AYUSH and Allied Systems. N.I.A. Jaipur, Rajasthan, India.

^{iv} Sonia Malik et.al. (2014) Management of Polycystic Ovary Syndrome in India, Fertility Science and Research / Jan-Jun 2014 / Vol 1 | Issue 1 23

^v JCEM The journal of clinical endocrinology & metabolism Diagnosis of Polycystic Ovarian Syndrome: The Rotterdam Criteria Are Premature [Ricardo Azziz](#)

- See more at: <http://press.endocrine.org/doi/full/10.1210/jc.2005-2153#sthash.zr31pGr7.dpuf>

^{vi} Ferriman Gallwey Evaluation of Hirsutism <http://www.hirsutism.com/>

^{vii} L. CRONIN et.al. (1998) Development of a Health-Related Quality-of-Life Questionnaire (PCOSQ) for Women with Polycystic Ovary Syndrome (PCOS) Journal of Clinical Endocrinology and Metabolism Vol. 83, No. 6

^{viii} Prakash mangalasseri Hari T The role of biological fire innate psychic strength(satva)& vital essence (ojas)in manifestation of depressive disorder of Ayurveda med (JAHM)2014 2 (7)25-29 Source of support –Nil conflict of interest none declared.

^{ix} L. CRONIN et.al. (1998) Development of a Health-Related Quality-of-Life Questionnaire (PCOSQ) for Women with Polycystic Ovary Syndrome (PCOS) Journal of Clinical Endocrinology and Metabolism Vol. 83, No. 6