

A REVIEW ON YOGA AND NATUROPATHY INTERVENTION IN FEMALE INFERTILITY

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ABSTRACT

Introduction: Issues in conception and infertility have been a matter of consideration through the ages and also challenging. It is estimated to affect 8 to 12% of reproductive-aged couples worldwide. Erratic lifestyle and stress have an effect on both physical and mental well-being and can be responsible for infertility. While going through the literature, patients with PCOS, Obesity, Stress and anxiety also face challenges of infertility. Specific *Asana* and *Pranayama* with Naturopathic interventions has laid emphasis in prevention and curative aspect of infertility. **Method:** A thorough review was carried out from peer reviewed journals, classical yoga literatures and data bases like Google scholar and PubMed. **Results & Discussion:** Studies reported that there is positive transition in morphology of polycystic ovary after intervening with naturopathy and yoga. Yoga was found to be more productive on ameliorating glucose, lipid and insulin resistance ranges as well as on anxiety symptoms in adolescent girls with PCOS. Yoga mainly improves reproductive functions by balancing the Neurohormonal profile and by reducing stress. **Conclusion:** Studies have showed that adopting a healthier life style through simple modifications may help to reduce the causes of infertility. Yoga therapy with Naturopathic intervention has offered novel approaches which can be implemented as one among the credible remedy to get rid of infertility related concerns.

Keywords: Yoga, Female infertility, Naturopathy, infertility intervention

INTRODUCTION

Difficulty in conception and infertility has been a matter of consideration through the periods and also challenging. Globally it is estimated that in between 60 and 80 million couples suffer from infertility yearly, of which 15 to 20 million are seen in India alone¹. Female fertility is in its prime from 18-24 years of age and it begins to decline after 27 years of age. Plenty of clinical conditions can contribute to infertility such as PCOS, Obesity, Stress and anxiety. Erratic lifestyle

and stress affect both physical and mental well-being and can be responsible for infertility.

The yogic way of living is a key approach that helps to attain state of health. It is more important to have both a sense of feeling healthy as well as being healthy. Hence, the spiritual nature of the human life, qualitative aspect of health are rightly considered more important in yoga and other Indian systems of traditional medicine. The holistic art and science of Yoga with Naturopathy practices is the best lifestyle

ever designed and is effective in managing prevalent lifestyle disorders such as obesity, PCOS³. Interestingly, modern research has begun to focus on the psycho-physiological beneficial effects of yoga which need to be understood as more than merely a form of physical exercise. Specific Yoga asana and Pranayama with Naturopathic intervention has laid a great importance in curative and preventive aspect on these over-coming causes of infertility. This review aims to find out the effect of Naturopathic as well as Yogic interventions in causes of female infertility such as PCOS, Stress and anxiety.

METHOD: Review was carried out from, peer reviewed journals, classical yoga literatures and data bases like PubMed Science direct, DHARA, Google Scholar and AYUSH Research Portal were searched. By using the key word, female infertility and yoga only very few articles obtained including clinical trials.

RESULTS AND DISCUSSION

Effect of Yoga in Polycystic ovarian syndrome

Studies reported that there are positive changes in polycystic ovarian morphology after performing Yogic and Naturopathic interventions. Yoga therapy modulates neuroendocrine axis and adapt fine tuning and which results in beneficial changes. It mainly improves reproductive functions by balancing the neuro-hormonal profile and by reducing stress and also reduces excretion of aldosterone and catecholamine's. Decline in serum cortisol level and alterations of alpha waves in brain were observed during yoga therapy which reduces the stress level⁴. By enhancing the reproductive functions, yoga practices may give effective results in female infertility. Yoga as a form of comprehensive mind-body medicine is effective in reducing anxiety symptoms in PCOS patients. Practices comprised yoga postures, techniques of relaxation, *pranayama* and *kriya*. Yoga concentrate on the system of energy present in the body with different areas and *chakras*. Different position in yoga practice increases the flow of energy of *swadhishtana chakra* also called as the seat of creation in which the reproductive organs are present⁵. By practicing yoga, stimulation of *swadhishtana chakra* occurs and this

may balance the reproductive function. Study reported a yoga program of 12 weeks showed a significant reduction in Anti-Mullerian hormone, Luteinizing hormone, Testosterone, modified Ferryman and Galway (mFG) score for hirsutism and correcting the menstrual cycle in PCOS patients compared to physical exercises⁶.

Yoga intervention in PCOS

Asana: *Pavanamuktasana* (wind relieving pose), *ut-tanapadasana* (straight leg raising), *setubandhasana* (bridge pose), *bhujangasana* (cobra pose), *badhako-nasana* (butterfly pose), *padahasthasana* (gorilla pose or hand under foot pose), *katichakrasana* (standing spinal twist), *ardhakatichakrasana* (standing side stretch pose), *dwikonasana* (double angle pose)

Pranayama: *Nadi sodhana pranayama* (alternative nostril breathing), *suryabhedana pranayama* (right nostril breathing), *bhramari pranayama* (humming breath)

Kriya: *Kapalbhati*

Relaxation: *Savasana*⁷

Effect of Naturopathy in Polycystic ovarian syndrome

Reviews have identified emerging evidence of the cost-effectiveness of different alternative therapies such as naturopathy and also have a better quality of care.

Naturopathy intervention

Mud therapy: Mud therapy plays a major role in circulation and vasodilatation. Various peat substances are able to permeate the skin.⁸ Circulation in the uterine artery after peat bath achieved the physiologic effect of prolonged vasodilatation and circulation. Absorption of peat substances takes place through the hair follicles and apocrine glands through diffusion and partial pinocytosis.⁹ By improving the vasodilatation and circulation mud therapy may effectively results in restoring the causes of female infertility.

Hydrotherapy: Hot foot bath: Study reported that very hot applications to the feet (10 min) stimulate the involuntary muscles of the uterus and other pelvic viscera. The dilatation of the blood vessels produced in the feet by this application extends to the upper parts of the limbs and to the vessels of the pelvic viscera.¹⁰ The uterus and ovaries receive an increased

supply of blood, which renders the foot bath a useful measure for restoring the function of menstruation when suspended. Cold hip bath: A short cold hip bath produces active dilatation of the vessels of the lower abdomen. The prolonged cold hip bath (15–20 min) causes very pronounced effects on the pelvic circulation.¹¹ By dilating the vessels of lower abdomen, cold hip bath increases the pelvic circulation and may possibly restore the causes of female infertility. The contraction of the cutaneous branches of the internal iliac tends to produce hyperaemia of the pelvic viscera. Cold enema: The enema renders service in encouraging the action of the liver and kidneys, and especially in cleansing the alimentary canal.¹²

Diet therapy: Sedentary life style with improper diet habits may increase the chances of infertility. Sugars and white flour products are absorbed into the bloodstream which results in to a quick rise in the level of blood sugar and then the secretion of insulin increases¹³. Dietary recommendations such as low carbohydrate, high protein and low glycaemic index are advised in PCOS patients. Significant loss of weight occurred when a high level of protein supplementation was added to an energy reduced diet.¹⁴ Different diluted juices provide a modest amount of calories and stabilize blood glucose levels.¹⁵ Thereby it reduces the chances of obesity which may lead to female infertility.

Effect of yoga in stress and anxiety in infertility

Yoga practices proved its effectiveness than regular physical exercises on regulating the metabolism as well as on anxiety symptoms in PCOS patient's especially in adolescent girls.¹⁶ Increased level of stress may lead to In vitro fertilization (IVF) failures. Studies suggested that Hatayoga practice reduces the stress reduction in those women who are more distressed before starting IVF cycle.¹⁷ Studies also showed that specific Yoga asana & Pranayama are incurred with the therapeutic process of infertility due to the high expense associated with Assisted Reproductive Technology (ART). Some infertile couples may turn to CAM (Complementary and alternative medicine) in an attempt to become pregnant using treatment that they may perceive as being safer, lower cost or more effective.

Yoga practice showed effectiveness in reducing the anxiety level. Study showed that a 6 week yoga programme of 90 min duration in once a week significantly reduced the anxiety levels in infertility patients. Depression, anxiety and fertility-specific quality of life showed improvement over time in relation with participation in a 6-week Yoga programme in women anticipating treatment with IVF.¹⁸ Thus Yoga maintains and improves the mental qualities of the person which is very essential while treating infertility.

Yoga intervention in anxiety

Asana: *Ardhakatichakrasana* (lateral arc posture), *vrikshasana* (tree pose), *makarasana* (crocodile pose), *sethubandhasana* (bridge pose)

Pranayama: *Bhramari pranayama* (honey bee sound during expiration), *nadishudhi pranayama* (alternative nostril breathing), *basthrika* (rapid breathing)

Relaxation: *Savasana* (corpse pose)¹⁹

Future Prospective

This review has identified certain areas for future research. Still, more validation is required with various causes of female infertility with more clinical trials in yoga and naturopathy. Different Yogic and Naturopathic intervention protocols can be introduced. Effective interventions in Yoga including *Suryanamaskara* in female infertility can be evaluated with more number of participants.

CONCLUSION

Female infertility has increased tremendously and this is due to the result of a combination of social, environmental, psychological, and nutritional factors. Yoga pays attention to both body as well as mind, and it enhances the body systems participating in the process of fertilization and therefore serves as an excellent alternative for reaching fertilization. Naturopathy provides a non-invasive, low cost and non-iatrogenic alternative and complement to western medicine in the treatment of female infertility. Because it focuses on rebalancing individuals rather than just treating diseases, its treatments are have low potential for side effects. Studies have showed that adopting a healthier life style through simple modifications in our daily routine may help to reduce the causes of infertility. Yoga therapy with Naturopathic interventions has of-

ferred novel approaches which can be implemented as one among the credible remedy to get rid of infertility related concerns.

REFERENCES

1. Pasi AL, Hanchate M S, Pasha MA 2011. Infertility and domestic violence: Cause, consequence and management in Indian scenario. *Biomedical Research*. 22(2):255-258
2. Agboola A 2004. *Textbook of Obstetrics and Gynaecology*, Heinman Educational Books, Ibadan. Vol 1: 174-176
3. Study to Evaluate the Changes in PCO Morphology after Yogic and Naturopathic Intervention. M Ezhil Ratnakumari, N Manavalan, D Sathyanath, Y Rosy Ayda, and K Reka
4. Sengupta P. Health impacts of yoga and pranayama: A state-of-the-art review. *Int J Prev Med*. 2012; 3: 444-58.
5. Field T, Yoga clinical research review, *Comple Ther Clin Pract*, 17 (2011) 1-8.
6. Nidhi R, Padmalatha V, Nagarathna R, Amritanshu R. The effects of a holistic yoga program on endocrine parameters in adolescents with polycystic ovarian syndrome. *J Pediatr Adolesc Gynecol*. 2011 Aug; 24(4):223-7
7. Study to Evaluate the Changes in Polycystic Ovarian Morphology after Yogic and Naturopathic Intervention. M Ezhil Ratnakumari, N Manavalan, D Sathyanath, Y Rosy Ayda, and K Reka
8. Beer AM, Junginger HE, Lukanov J, Sagorchev P. Evaluation of the permeation of peat substances through human skin in vitro. *Int J Pharm*. 2003; 253: 169-75.
9. Goecke C. Proceedings of the 32nd World Congress of the International Society of Medical Hydrology and Climatology Bad Worishofen, Germany: 1994. Apr 4, Efficacy of Peat Therapy: Health Resort Medicine.
10. Kellogg JH. *Rational Hydrotherapy*. 2nd ed. Pune: National Institute of Naturopathy; 2013. The technique of hydrotherapy; p. 763.p. 765. (Reprinted), Part 3.
11. Weil SJ, Vendola K, Zhou J, Adesanya OO, Wang J, Okafor J, et al. Androgen receptor gene expression in the primate ovary: Cellular localization, regulation, and functional correlations. *J Clin Endocrinol Metab*. 1998; 83: 2479-85.
12. Kellogg JH. *Rational Hydrotherapy*. 2nd ed. Pune: National Institute of Naturopathy; 2013. The technique of hydrotherapy; p. 757.p. 758. (Reprinted), Part 3.
13. Pizzorno JE, Murray MT. *Textbook of Natural Medicine*. New York: Elsevier; 2015. Rotation diet: A diagnostic and therapeutic tool; p. 396. Ch.46.
14. Moran LJ, Noakes M, Clifton PM, Wittert GA, Williams G, Norman RJ. Short-term meal replacements followed by dietary macronutrient restriction enhance weight loss in polycystic ovary syndrome. *Am J Clin Nutr*. 2006; 84:77-87.
15. Selye H. *Stress and holistic medicine*. *Fam Community Health*. 1980; 3:85-8.
16. Effect of a yoga program on glucose metabolism and blood lipid levels in adolescent girls with polycystic ovary syndrome. Nidhi R¹, Padmalatha V, Nagarathna R, Ram A. *Int J Gynaecol Obstet*. 2012 Jul; 118(1):37-41. doi: 10.1016/j.ijgo.2012.01.027. Epub 2012 Apr 14.
17. Hatha-yoga as a psychological adjuvant for women undergoing IVF: a pilot study. Valoriani V, Lotti F², Vanni C, Noci MC, Fontanarosa N, Ferrari G, Cozzi C, Noci I. *Eur J Obstet Gynecol Reprod Biol*. 2014 May; 176: 158-62. doi: 10.1016/j.ejogrb.2014.02.007. Epub 2014 Feb 15
18. Impact of a Structured Yoga Program on Anxiety in Infertility Patients: A Feasibility Study Sona Jasanil, Beth Heller², Sue Jasulaitis³, Marie Davidson³ and Jennifer Hirshfeld-Cytron^{3*}
19. Gupta N, Khera S, Vempati RP, Sharma R, Bijlani RL. Effect of yoga based lifestyle intervention on state and trait anxiety. 2006; 50(1):41-7.

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