

Clomiphene vs Clomiphene and Yoga for Infertile Women: A Comparative Study

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Abstract

Background: Extreme stress can affect hormonal balance, which is definitely a problem when a woman is trying to conceive. Yoga can act as an antidote to the harmful effects of stress hormones. A study was conducted to compare the effects of clomiphene and clomiphene and Yoga in infertile women.

Methods: A prospective study on 60 infertile women was conducted in an infertility clinic of a tertiary care referral center. Eligible women were equally randomized into two groups, Group I (clomiphene and yoga) and Group II (clomiphene alone). Group I practiced yoga daily for six months in addition to Tab clomiphene and Group II was given Tab clomiphene alone for six cycles, Group II practiced yoga daily for 6 months in addition to tab clomiphene. Comparative analysis was made among both the groups.

Result: Ovulation occurred after 3 months of yoga in Group I compared to Group II, where ovulation was observed in the 1st month. About 46.6% versus 33.3% women conceived in Group I and Group II, respectively. All pregnancies in Group I crossed the period of viability but in Group II, 50% crossed the period of viability. Women in Group I reported feeling stronger and more confident; whereas in Group II nausea was complained by 33.3% women 26.6% women complained of headache, and woman 6.6% had abdominal distension and bloating during the study.

Conclusion: Though the results of yoga are comparable to clomiphene, the number of viable pregnancies are more and without any adverse effects by yoga therapy.

Key words: Clomiphene, Infertility, Stress hormones, Yoga therapy

INTRODUCTION

Infertility creates devastating psychological consequences on infertile couples and remains a worldwide problem challenge. Extreme stress can affect hormonal balance, which is definitely a problem when a woman is trying to conceive. Infertile women may have profound psychological effects and becomes more anxious to conceive, increasing their sexual dysfunction.¹ In the reproductive system, hypothalamus produces gonadotropin releasing hormones which stimulates the pituitary gland to produce the peripheral hormones,

luteinizing hormone, and follicle stimulating hormone; which in turn stimulates the production of testosterone, estradiol, and sexual behavior.² Stress makes the adrenal gland produce glucocorticoids which acts directly on hypothalamus to suppress gonadotropin releasing hormones production and also boost hypothalamic gonadotropin inhibitory hormone production, which acts to reduce hypothalamic gonadotropin releasing hormones, as well as pituitary secretion of sex hormones, thereby suppressing the entire reproductive system.³ Yoga can act as an antidote to the harmful effects of stress hormones by decreasing the blood levels of cortisol, adrenocorticotrophic hormone, norepinephrine and epinephrine, and restoring the optimal reproductive health.⁴

Clomiphene is the selective estrogen receptor modulator that also acts on hypothalamus by binding E2 receptors and thereby creating a state of hypoestrogenicity; this upregulates the hypothalamic-pituitary-ovarian axis.

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We conducted a study to compare the effects of clomiphene and clomiphene and Yoga in infertile women.

Aims and Objectives

The aims and objectives were to compare the efficacy and safety of clomiphene versus clomiphene and yoga on infertile women.

METHODS

A prospective randomized study was conducted over a period of 1½ year, where infertile women between 20 and 35 years were selected from our infertility clinic.

Inclusion Criteria

Women who gave the consent to participate in the study till the completion. The history of oligomenorrhea, hypomenorrhea, or amenorrhea. Normal thyroid function tests, prolactin, hysterosalpingography, and semen analysis. D2 transvaginal ultrasound is indicating PCOS or normal study. Endometrial biopsy is not suggestive of tuberculosis.

Exclusion Criteria

Women with any medical disorders (diabetes, hypertension, epilepsy, asthma, etc.), or past surgeries. Previous stimulated cycles. Eligible 60 women were randomized equally into two groups, Group I (clomiphene and yoga) and Group II (clomiphene alone). Group II was given tab clomiphene 50-100 mg for 5 days starting from D2 to 3 for three cycles. The transvaginal scan was done on day 12 to observe dominant follicle and serum progesterone was done on day 21. Timed intercourse was explained.

Group I, in addition to the tab., clomiphene also practiced fertility yoga for 45-50 min daily for 6 months in our yoga center including holidays. Women were taught 5 exercises - lotus pose meditation (Padmasana), a bridge supporting pose (Setu Bandha Sarvangasana), Cobra pose meditation, Cobbler’s pose, and legs up the wall pose. Timed intercourse was explained in both the groups. Comparative analysis was made for the restoration of normal menstruation, ovulatory rates, conception rates, and adverse effects among both the groups.

RESULTS

The normal menstrual cycle was restored in 10 (66.6%) women after 3 months of yoga in Group I and none in Group II.

In Group I, ovulation was documented after 3 months of yoga and maximum number being in 5th month 15 (50%) compared to Group II where ovulation was observed in

the 1st month, maximum number was in the 2nd month 11 (36.6%) (Table 1).

A total of 14 women (46.6%) versus 10 (33.3%) women conceived in Group I and Group II, respectively, however, conception occurred in 5th month of yoga in Group I as compared to conception in 2nd month in Group II (Table 2).

All women in Group I crossed the period of viability but in Group II, 5 (16.6%) woman had ectopic gestation, 10 (33.3%) had spontaneous abortion, and only 15 (50%) crossed the period of viability.

It has been observed that fertility yoga was fruitful in women having a long duration of married life and clomiphene was beneficial in couples having married life <5 years (Table 3).

Women in Group I reported feeling stronger, more confident, and powerful; whereas in Group II, nausea was complained by 10 (33.3%) women, 8 (26.6%) women complained of headache, and 2 women (6.6%) had abdominal distension and bloating during the study.

DISCUSSION

Infertile women have a higher level of physical and psychological symptoms, which could include but are not limited to such as insomnia, headache, back pain, fatigue, anxiety, and depression. These symptoms may affect the ability to implant successfully through abnormalities detectable in the immune system. Certain yoga postures

Table 1: Ovulatory rates

Months	Group I (yoga) (%)	Group II (clomiphene) (%)
I st	0	6 (20)
II nd	0	11 (36.6)
III rd	0	9 (30)
IV th	12 (40)	0
V th	15 (50)	0
VI th	8 (26.6)	0
Total	30	30

Table 2: Conception rates

Months	Group I (%)	Group II (%)
I st	0	0
II nd	0	6 (20)
III rd	0	4 (13.6)
IV th	0	0
V th	10 (33)	0
VI th	4 (13.3)	0
Total	30	30

Table 3: Comparative analysis of Group I and Group II

Duration of marriage	Group I				Group II			
	Ovulated (%)	Conceived (%)	Total	P-value	Ovulated (%)	Conceived (%)	Total	P-value
<5 years	2 (25)	0	8	0.1429 (NS)	8 (100)	6 (75)	8	0.1429 (NS)
5-10 years	12 (75)	6 (50)	16	1.000 (NS)	10 (62.5)	2 (25)	16	0.321 (NS)
>10 years	6 (100)	6 (100)	6	0.1000 (NS)	0	0	6	0.1000 (NS)

NS: Non-significant

that specifically target the reproductive organs and pelvic areas help to increase circulation and stimulates the energy in those area.

The study conducted by Berga^{5,6} observed the improvement in the reproductive health of women having an anovulatory amenorrhea. These women have high levels of stress hormone cortisol in cerebrospinal fluid. After yoga therapy cortisol had dropped and 7 out of 8 (88%) women achieved normal menses and ovulation compared to 2 out of 8 (25%) in the control group. The present study showed 66.6% resumed normal menses after 3 months of yoga therapy and none in clomiphene group. About 67% versus 56% women had ovulation in yoga and clomiphene groups, respectively.

Domar^{7,8} reported that conception rates were boosted to 55% for first 10 weeks compared to 20% for controls after 1-year. Our study observed 46.6% versus 33.3% conception rates in yoga and clomiphene groups, respectively, over a period of 6 months.

CONCLUSION

Yoga focuses on wellness, and people are motivated to improve diet and lifestyle, these two factors increase the chance of conception. The results of fertility yoga along with clomiphene are remarkable. However, viable pregnancy rates are more and without any adverse effects with yoga therapy. It is especially fruitful for infertile women

with long duration of married life, the only drawback being time consumption. However, large-scale randomized trials are required actually to compare the efficacy of fertility Yoga and clomiphene.

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