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Research Article

ROLE OF PALASHADI GHANA VATI ON PH OF THE SEMEN: AN UPASHAYATMKA STUDY

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ABSTRACT

At present, cases of male infertility are increasing day by day. The prevalence of infertility in the general population is 15%–20%. Of this, the male factor is responsible for 20%–40%. Male infertility may be due to disorders of sperm production affecting the quality. Semen pH is considered an essential parameter during analysis. In general, a pH value outside the range is harmful to sperms. Study was conducted on 15 adult male patients suffering from Bandhyatva (infertility) with pH of the semen ≥ 8.0 . Palashadi Ghana Vati was administered for 3 months and routine semen analysis was performed before and at the end of the trial. The trial drug was found to be effective on semen with abnormal pH.

Key words: Infertility, semen, sperm, Bandhyatva

INTRODUCTION

At present, cases of male infertility are increasing day by day. The prevalence of infertility in the general population is 15%–20%.¹ Of this, the male factor is responsible for 20%–40%. In Indian couples seeking treatment, the male factor is the cause in approximately 23%.² Male infertility may be due to disorders of sperm production affecting the quality and/or the quantity of sperm, anatomical obstructions, immunological disorders, genetic factors, environmental factors, infection or surgical trauma.³ Semen pH is considered an essential parameter during analysis because abnormal semen pH may indicate any infections or blockage of seminal vesicles.⁴ Acidic ejaculate may be associated with the blockage of the seminal vesicles.^{5,6,7,8} Alkaline ejaculate is usually associated with infections that impair fertilization in vitro and in vivo. In general a pH value outside the range is harmful to sperms.⁹ Thus, we can say that pH of semen affects the semen quality which may lead to male infertility. With this view, an attempt was made to evaluate the role of an Ayurvedic formulation on pH of semen.

AIMS AND OBJECTIVES

To evaluate the role of an Ayurvedic formulation on pH of the semen.

MATERIAL AND METHODS

The study was conducted at National Institute of Ayurveda, Jaipur- Rajasthan. Nidanatmaka (epidemiological) study was carried out as a separate study on subjects suffering from Klaibya (Impotence) or Bandhyatva (Infertility). Total 15 subjects with pH ≥ 8.0 were selected for the study and with due consent of the patients routine semen analysis was performed at the beginning of the trial and at the end of the trial (Ethical clearance number: F. 5(1)/2012-13/15301). Total duration of trial was of 3 months. The pH of the semen was measured after liquefaction, with the help of calibrated digital pH meter.

Inclusion criteria

Adult Male Patients suffering from Bandhyatva (infertility) with pH of the semen ≥ 8.0

Exclusion criteria

Patients suffering from major illness like- Coronary artery disease, CHF, arrhythmias, stroke, cardiac disorders, Tuberculosis, etc.

Trial drug: Palashadi Ghana Vati

Ingredients of the trial drug: Equal quantity of-

Palasha (*Butea monosperma* Linn),
Haritaki (*Terminalia chebula* Retz),
Chitraka (*Plumbago zeylanica* Linn)

Statistical analysis: Paired- t test was performed.

OBSERVATIONS AND RESULTS

Age wise distribution shows that out of 15 subjects, 8 subjects were in the age group of 18-30 years, 6 subjects were in the age group of 31-40 years and only one subject was in the age group of 41-50 years.

Marital status of the study subjects shows that out of 15 subjects, 11 were married.

Religion wise distribution shows that 11 subjects were from the Hindu community and the rest were from the Muslim community. Eating habits wise distribution shows that 5 subjects were having vegetarian diet and the rest i.e. 10 subjects were having mixed type of diet.

It was found that mean pH before the treatment was 8.14 which declined to 7.70 at the end of the trial of three months. The statistical analysis shows that two-tailed P value is < 0.001 , considered highly significant. [Table 1]

Table 1: Effect of therapy on Semen pH of 15 subjects

No. of Subjects	Mean		Dif.	% of Change	SD±	SE±	t	P
	BT	AT						
15	8.14	7.70	0.44	5.41	0.26	0.07	6.59	<0.001

DISCUSSION AND CONCLUSION

As the majority of the patients were in the age of 18-40 years, generally in this age a person is peak in enjoying sexual life and this age is considered as reproductive age in man's life. It can be assumed that maximum fertility issues can occur at this age. As the majority of the subjects were married, it may be because generally sexual problems and fertility related issues come in knowledge after marriage. Semen pH is an important factor for the semen quality. pH of the Semen is considered an essential parameter in the diagnosis of Infertility. An abnormal pH may lead to male infertility. From the results it is clear that the trial drug is very effective on pH of the semen. On analysing the properties of the ingredients of the Palashadi Ghana Vati, all the three ingredients, more or less, have their effect on semen quality. In previous researches, Palasha has been found as aphrodisiac, astringent and astringent.^{10,11,12} Haritaki has also been found to be aphrodisiac, antioxidant and adaptogenic.¹³ Chitraka is an antioxidant, and Plumbagin, an alkaloid, derived from *Plumbago zeylanica*, modulates cellular proliferation, carcinogenesis, and radioresistance.¹⁴ Thus, we can say that the trial drug has its role on semen pH and can be used to treat the alkaline semen or in other words it can be used to treat the infertility if it is due to abnormal pH of the semen.

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