

## The Role of Glutathione in Male Infertility

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### ABSTRACT

**Background:** Male infertility proves to be a psychological distress for the married couples. Numerous research studies have attempted to determine the causes of male infertility with the objective of developing therapeutic approaches to effectively improve various semen parameters. The presented intervention is a quantitative approach that categorically assesses the therapeutic advantage of oral GSH (glutathione) administration on various semen parameters including sperm concentration, morphology and motility in infertile males. The study hypothesis presumes the positive/linear correlation of the selected sperm parameters with orally administered glutathione.

**Materials and methods:** The prospective placebo-controlled study included 101 infertile adult males through random selection between the timeframe of January 2017 to March 2018. The selected subjects did not experience any chronic disease of the reproductive system and exhibited normal female factor. GSH oral therapy was administered between 0 to 6 months, 51 patients received GSH therapy and 50 patients received Placebo in the form of glucose sachets. At the time of 0, 3 and 6 months blood and semen samples were taken for analyses for treatment and placebo groups.

**Results:** The findings recorded at 0 weeks, 3 months and 6 months interval revealed a significant p-value (between 0.01 to 0.03 for sperm motility, morphology and concentration). At 0 week no statistical significance for the results while at 3 months GSH value was 4.55 mg/dL for GSH group therapy in comparison for 1.55 mg/dL for placebo group which was statistically significant.

**Outcomes:** The study findings revealed a strong positive relationship between oral glutathione therapy and the selected sperm parameters.

**Keywords:** Oral GSH, Male infertility, Glutathione, Sperm concentration, Sperm morphology, Sperm motility

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