

Effect of Wuzi Yanzong on semen quality in subfertile men: a double-blind, randomised, placebo-controlled trial (abridged secondary publication)

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KEY MESSAGES

1. In patients with suboptimal semen quality, the traditional Chinese medicine Wuzi Yanzong did not demonstrate a therapeutic effect on semen quality at 3 months.
2. The duration and dosage used in this study may be insufficient to improve semen quality in subfertile men. Nonetheless, the pill appears safe for long-term use.

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Introduction

In developed regions, male infertility accounts for approximately half of all infertility cases. Poor sperm motility and low sperm counts are the most common causes. Wuzi Yanzong (WZYZ) is a traditional Chinese medicine formula widely used to improve semen quality. This study aimed to investigate the therapeutic effect of modified WZYZ on semen quality, sperm function, and natural conception outcomes.

Methods

Men with a total motile sperm count of <20 million were recruited from a university hospital in Hong Kong and randomly assigned to receive either a placebo or WZYZ twice daily for 3 months. Semen samples were collected at baseline, 6 weeks, 3 months, and 6 months to assess semen quality and natural pregnancy outcomes, if any. The total motile sperm count is the most predictive factor for achieving pregnancy. Patients were excluded if infertility was attributed to removal of one testicle, a history of undescended testis, previous chemotherapy, testicular torsion, other known abnormalities of the reproductive organs, azoospermia (indicating structural or chromosomal abnormalities), or known chromosomal disorders. The primary outcome was semen quality. Secondary outcomes included the clinical pregnancy rate, live birth rate, and adverse effects.

WZYZ is composed of *Lycii fructus* (枸杞子) 2.4 g, *Rubi fructus* (覆盆子) 3 g, *Cuscutae Chinensis Semen* (菟絲子) 2.4 g, *Rehmanniae Glutinosae Conquitate Radix* (熟地黃) 3 g, *Polygonati Rhizoma* (黃精) 3 g, *Cistanches Deserticolae Herba* (肉蓯蓉) 2 g, *Epimedii Herba* (仙靈脾) 2 g, *Plantaginis Semen* (車前子) 2 g, and *Cornus Cervi Colla* (鹿角膠) 1.6 g. The total daily dose of 21.4 g was divided into two oral doses.

Results

Of 253 patients recruited, 230 (113 in the control group and 117 in the treatment group) completed the entire treatment course and were assessed at

all follow-up visits. The intention-to-treat analysis indicated that WZYZ did not exert any therapeutic effects on sperm motility, sperm concentration, or total motile sperm at any follow-up point. Nonetheless, both groups demonstrated upward trends in sperm concentration, total motile sperm, and motility over the treatment course compared with baseline values. This improvement might be attributable to healthier lifestyle practices adopted after participants became aware of their poor semen quality.

Patients who reported taking supplements showed significant increases in total motility and semen volume; there was a synergistic effect between supplements and WZYZ on sperm concentration. Patients who took supplements exhibited a higher 2-year pregnancy rate. Additionally, there was a synergistic effect between smoking and WZYZ on total motility.

Conclusion

WZYZ demonstrated neither beneficial nor harmful effects on semen parameters or natural conception rates. A standard dosage of WZYZ is not recommended for men with suboptimal semen parameters.

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Disclosure

The results of this research have been previously published in:

1. Zhao M, Chan CPS, Cheung CWC, et al. A double-blinded, randomized placebo-controlled trial on the effect of traditional Chinese medicine formula Wuzi Yanzong pill on improving semen qualities in men with suboptimal parameters. *Trials* 2019;20:540.