

Erectile Dysfunction and Associated Risk Factors in Chinese Males of Infertile Couples

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ABSTRACT

Background: Knowledge on the occurrence of erectile dysfunction (ED) and timely ovulatory intercourse failure (TOIF) in Chinese men of infertile couples is limited.

Aim: To obtain representative estimates of ED and TOIF in Chinese men of infertile couples and to analyze potential risk factors associated with ED.

Methods: 4,299 Chinese men of infertile couples with an average age of 32.85 ± 5.98 years were surveyed using the 5-item International Index of Erectile Function (IIEF-5) questionnaire for their ED occurrence. Multiple logistic regression analysis was used to disclose risk factors associated with ED.

Outcomes: The occurrence of ED was 57.8% and that of TOIF was up to 26.2% in Chinese men of infertile couples.

Results: Based on IIEF-5 criteria, 34.9% of men had mild ED and only 2.6% had severe ED. Secondary infertility, infertility with known causes, and chronic prostatitis were significant risk factors associated with ED. TOIF was significantly higher (23.3%) in men of infertile couples with ED than in those without ED (8.6%), indicating that TOIF is likely a contributing factor to male infertility.

Clinical Implications: Understanding the occurrence and types of ED and TOIF in men of infertile couples and their associated risk factors will help physicians treat clinical cases of male infertility more effectively.

Strengths and Limitations: Large numbers of infertile outpatients from multiple hospital clinics across the country were included in this study. The concept of TOIF was raised for the 1st time and studied preliminarily in Chinese men of infertile couples. The lack of participants' psychological status, a control group of men of fertile couples, and measurement of testosterone levels was a limitation in this clinic-based study.

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Conclusion: The occurrence of ED was higher in Chinese men of infertile couples than in the general Chinese male population. **Yang B, Xu P, Shi Y, et al. Erectile Dysfunction and Associated Risk Factors in Chinese Males of Infertile Couples. J Sex Med 2018;XX:XXX–XXX.**

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Key Words: Erectile Dysfunction; Male Infertility; 5-Item International Index of Erectile Function; Risk Factors; Timely Ovulatory Intercourse Failure (TOIF)

INTRODUCTION

Approximately 15% of all couples are deemed infertile after 1 year of regular and unprotected sexual intercourse. A male factor might be involved in as many as half the infertile cases. Globally, the prevalence of male infertility was estimated to be 7% to 12%.¹ Several disorders leading to azoospermia could cause male infertility, such as premature ejaculation,² congenital absence of the vas deferens,³ and seminal tract obstruction.⁴ However, the etiology is unknown in approximately 50% of infertile couples and it is termed *idiopathic infertility*.³ Men with unknown causes of infertility can have problems with sexual dysfunctions, such as ejaculation, erection, and/or other sexual disorders.⁵

Erectile dysfunction (ED) is described as the persistent inability to attain and maintain penile erection sufficient for satisfactory sexual intercourse.⁶ ED could be caused by many different conditions, including psychological stresses, vascular disorders, decreased hormonal level, a couple's relational issues, and socioeconomic status.⁷ Epidemiologic data of ED in the Chinese population have emerged in recent years. A community-based survey of 2,226 men showed that the prevalence of ED was 40.2% in men older than 40 years.⁸ The most recent nationwide and community-based study with a larger sample reported that the prevalence estimate of ED in the non-institutionalized Chinese population was approximately 40.56%.⁹ However, there is limited information about the occurrence of ED and associated risk factors in Chinese men of infertile couples. Whether ED or other sexual problems are explicit causes for male infertility is uncertain. It would be interesting to know the potential risk factors associated with the occurrence of ED in this special group to assist with clinical counseling and treatment for infertility. In addition, infertile couples who are enthusiastically seeking conception are of reproductive age. We have observed in clinical practice that some couples have intercourse more frequently than usual during the women's ovulatory phase to increase the likelihood of conception. However, most have reported unsatisfactory results. The reasons for timely ovulatory intercourse failure (TOIF) and its occurrence in men of infertile couples are largely unknown. The relation among TOIF, ED, and male infertility has not been studied. As suggested by Bechoua et al,¹⁰ a better clinical management strategy is needed in which the couple's reproductive abnormality and associated sexual dysfunctions are considered as a whole for treatment of infertility. These were

incentives for us to study the occurrence of ED and other sexual problems including TOIF in Chinese men of infertile couples and to analyze the associated risk factors.

METHODS

Study Design and Participants

This study was a cross-sectional and clinic-based survey using a questionnaire in 29 urologic clinics in different regions of mainland China from July through September 2016. The subjects were 4,299 married Chinese men. The inclusion criteria were (i) men living with their wives or common-law partners; (ii) couples engaging in regular intercourse without any contraceptive device for at least 1 year⁶; (iii) couples planning to have a baby; and (iv) men seeking medical help for their infertility. The exclusion criteria were (i) men who had visible genital malformation, severe cardiovascular diseases, brain strokes, and psychiatric disorders; (ii) men who were not living day to day with their female partners because they worked in different cities; and (iii) men whose female partners had abnormality of the reproductive system by gynecologic examination in their medical history. The subjects self-described the problem to a doctor and/or medical interviewer with or without the company of their sexual partners during visits to 1 of the participating clinics in the survey. Each participant or couple was informed of the study purpose and the right to privacy before participation in the survey. Participation in the study was completely voluntary and anonymous. Consent to participate in the study was obtained from all individuals included in the study. The study was approved by the medical research ethics committee of the Peking Union Medical College Hospital (Beijing, China).

Questionnaire Survey and Evaluation

The 5-item version of the International Index of Erectile Function (IIEF-5) questionnaire was used and modified to include information such as existing diseases, marital status, sex frequency, intercourse synchronized to ovulatory dates, TOIF, type of infertility (primary or secondary), known reasons for infertility (male, female, and mixed factors), and any treatment procedures for ED (if ED was diagnosed) in addition to demographic information of participants. Informative explanations about the questionnaire were given by physicians or research nurses to participants and the questionnaire was completed by each participant recording his sexual behavior in the 6 months

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