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## Temporal Trends in Syphilis and Chlamydia Infection Rates Among Couples Undergoing Fertility Treatment: A Retrospective Analysis in an Urban Reproductive Health Center

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### Abstract

**Objective:** Amidst the escalating prevalence of syphilis in Japan, there exists a paucity of comprehensive studies examining the infectious landscape among couples seeking fertility treatments. This study endeavors to delineate the trends in syphilis and chlamydia prevalence in an urban reproductive health center and to articulate recommendations for targeted infection prevention. **Methods:** A retrospective analysis was performed on syphilis test results for couples undergoing fertility treatment at our institution from its inception in 2015 through March 2023. The incidence of syphilis and chlamydia was assessed using RPR-positive and TP-negative criteria for syphilis and Taqman PCR for chlamydia derived from cervical swabs. Ethical clearance was secured for retrospective data assimilation, and an opt-out provision was maintained. **Results:** Our findings underscored a continuous ascent in syphilis prevalence among males from 2015 to 2023, climaxing at 1.4% in 2021. Conversely, female infection rates exhibited a plateau, capping at 0.5%. Chlamydia prevalence peaked at 3.5% in 2021 before showing a downward trajectory. **Conclusion:** The data suggest that extramarital sexual encounters may underlie the uptick in syphilis prevalence among males seeking fertility treatment. While chlamydia incidence did not surge, it aligns with national epidemiological data, which indicates a stable-to-declining trend except within the 20-29 age demographic. These insights urgently necessitate heightened awareness and robust prevention strategies among couples in fertility treatment programs.