

Impact of Free Hormonal Intrauterine Devices on Unplanned Pregnancy Rates Among Female Soldiers

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Introduction

Unplanned pregnancy among female military personnel poses medical, personal, and operational challenges, with implications for individual health, military readiness, and healthcare resource utilization.

Oral contraceptive pills were available free of charge to female soldiers throughout the study period. **In September 2018, hormonal intrauterine systems (IUS) were added to the Israel Defense Forces medical benefits package and became available without personal cost, expanding access to long-acting reversible contraception within the military healthcare system.**

Objective

To evaluate whether the introduction of fully covered hormonal intrauterine systems was associated with changes in contraceptive dispensing patterns and pregnancy termination committee referral rates .

Methods

- Retrospective **population-level interrupted time-series** study of female soldiers in mandatory service, 2013–2024.
- **Primary outcome:** pregnancy termination committee referral episode; repeated referrals for the same soldier within 30 days were counted as one episode.
- Referral rates were modeled monthly using segmented Poisson regression, with active female soldiers as a log offset.
- First hormonal IUS and oral contraceptive pill dispensations were aggregated semi-annually and expressed per 50,000 active female soldiers.

Results

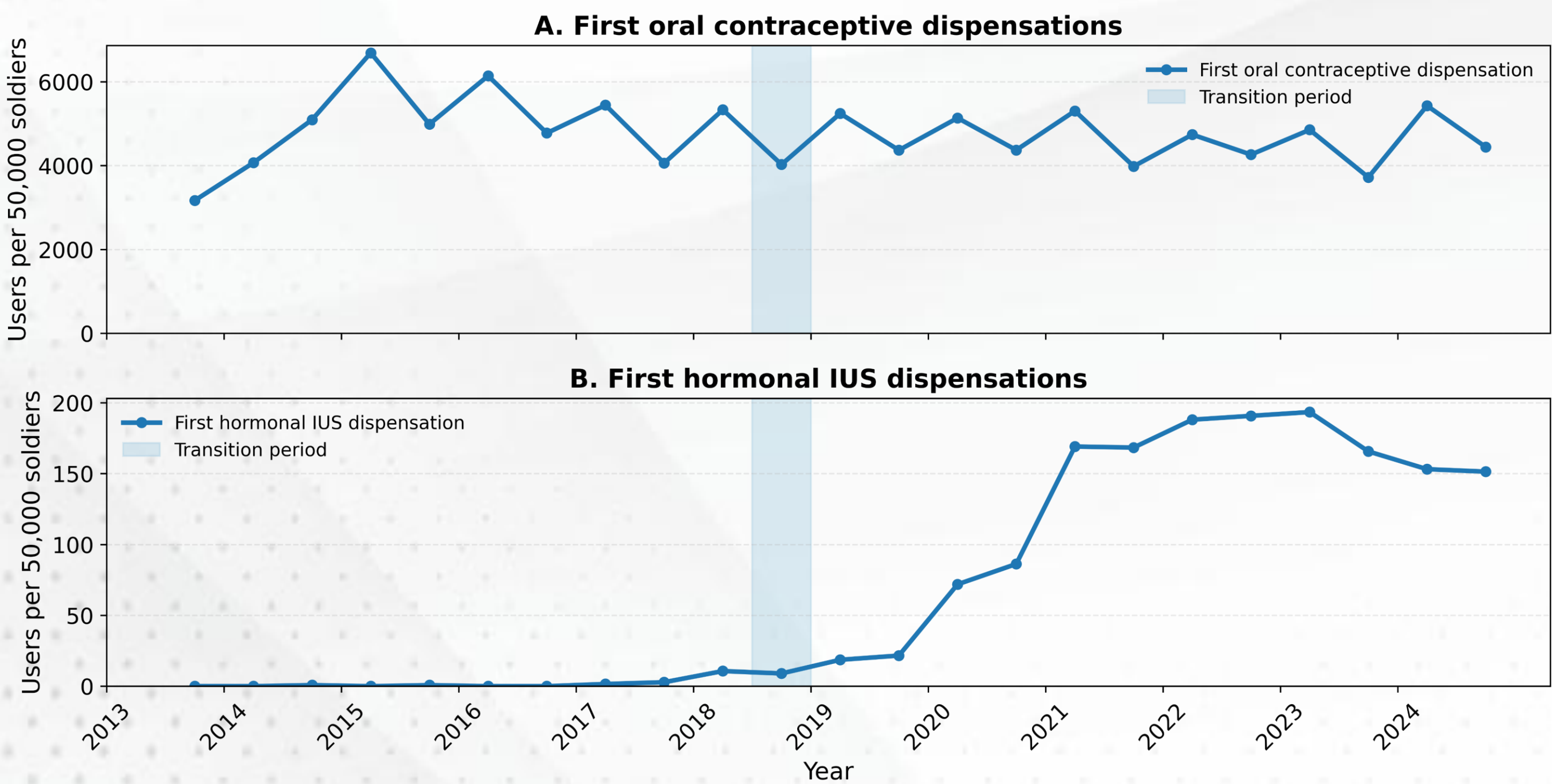
Contraceptive dispensing

- OCP first dispensations showed no major change around the 2018 directive.
- Hormonal IUS first dispensations increased gradually after free access was introduced.

Pregnancy termination committee referrals

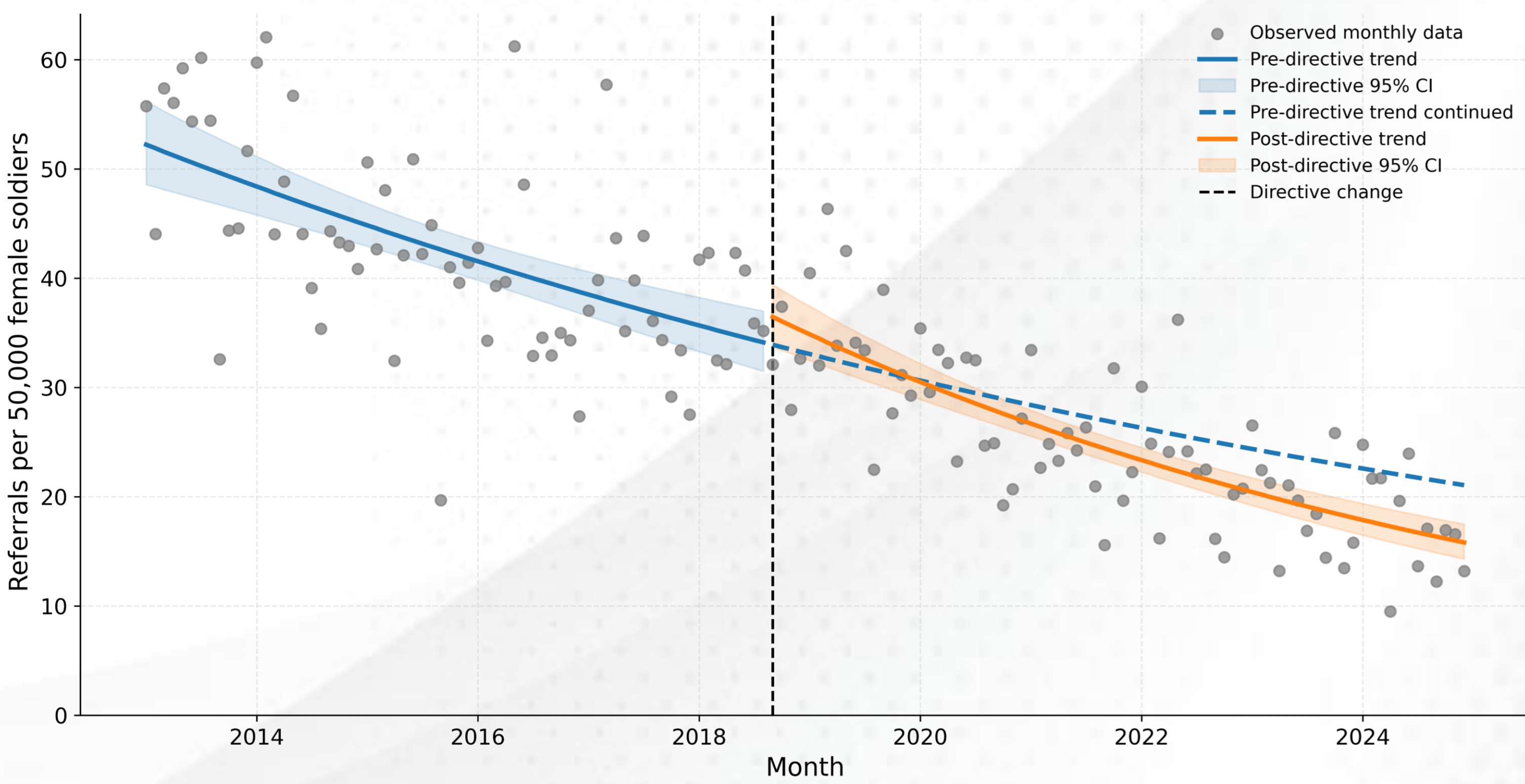
- Referral rates declined more steeply after the directive: **12.5% annual decline after vs 6.6% before.**
- Monthly ITS showed a significant post-directive trend change: **IRR 0.995, 95% CI 0.992–0.997, $p < 0.001$.**
- Monthly ITS showed no significant immediate level change after the directive: IRR 1.06, 95% CI 0.96–1.18, $p = 0.29$.
- During 2019–2024, 2,110 referral episodes were observed vs 2,410 expected, corresponding to **approximately 300 fewer referrals than expected.**

Figure 1. First contraceptive dispensations 50,000 female soldiers



OCP dispensing remained relatively stable, whereas hormonal IUS dispensing increased gradually after the 2018 directive.

Figure 2. Pregnancy termination committee referral rates per 50,000 female soldiers before and after the policy directive.



Referral rates declined more steeply after the introduction of fully covered hormonal IUS compared with the pre-directive trend.

Limitations

- Observational policy evaluation; causality cannot be definitively established.
- Pregnancy termination committee referrals are a proxy for unplanned pregnancy and pregnancy termination need, not confirmation of completed pregnancy terminations.

Conclusion

Free access to hormonal IUS was associated with increased IUS uptake and a greater-than-expected decline in pregnancy termination committee referrals among female soldiers. These findings support the potential value of fully funded preventive reproductive health services in military healthcare systems.



Abstract disclaimer: The authors declare that they have no conflicts of interest or disclosures relevant to the content of this abstract. All research procedures were conducted in accordance with established ethical guidelines and with the approval of the appropriate institutional review board. The findings presented are based on the data available at the time of submission and may be subject to further analysis or refinement.

