

TIME TO PREGNANCY AND EXPOSURE TO PESTICIDES AMONG COUPLES OF TWO AGRICULTURAL VILLAGES IN HEBRON DISTRICT, OCCUPIED PALESTINIAN TERRITORY: A PROSPECTIVE STUDY

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Objectives There is some evidence suggesting that exposure to pesticide in men is associated with reduced fertility. We examined effects of pesticide exposure on couple fecundability (probability of conceiving in a cycle) among Palestinian couples by using a time to pregnancy (TTP) approach.

Methods Participants were 331 newly married couples in Beit U'mmar and Halhoul villages, 2005–2008. All had a wish to have children. We followed all couples prospectively from marriage until pregnancy or at a maximum of 12 months by using a monthly questionnaire on TTP and occupational pesticide exposure. Exposure was assessed each month, and cycle-specific exposure indicators were constructed for husband and wife. We estimated exposure effects on fecundability with discrete proportional hazards regression.

Results Overall mean fecundability was 0.18 (95% CI 0.16 to 0.20). The 124 male farmers were exposed to pesticides in 428 cycles; fecundability 0.14 (0.11 to 0.18) and not exposed in 157 cycles; fecundability 0.32 (0.24 to 0.40). Non-farming couples (N=207, 1061 cycles) had a mean fecundability of 0.17 (0.15 to 0.19). For male exposure and female farming, the adjusted fecundability ratios (FR) were 0.87 (0.60 to 1.28), respectively 0.59 (0.31 to 1.10) as compared to non-farming couples. With the unexposed farmers as referents, the adjusted FRs for male exposure and female farming were 0.43 (0.30 to 0.62) and 0.46 (0.24 to 0.85).

Conclusions Male exposure to pesticides and female farming were associated with reduced fecundability. Pesticide use in Palestinian agriculture could have adverse effects on male and/or female fertility, which warrants preventive efforts in order to reduce exposure.