

The effect of hormone replacement therapy on the survival of UK women: a retrospective cohort study 1984-2017

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Abstract

Objective: To estimate the effect of oestrogen-only and combined hormone replacement therapy (HRT) on the hazards of overall and age-specific all-cause mortality in healthy women aged 46 to 65 at first prescription.

Design: Matched cohort study.

Setting: Electronic primary care records from The Health Improvement Network (THIN) database, UK (1984-2017).

Population: 105,199 HRT users (cases) and 224,643 non-users (controls) matched on age and general practice.

Methods: Weibull-Double-Cox regression models adjusted for age at first treatment, birth cohort, type 2 diabetes, hypertension and hypertension treatment, coronary heart disease, oophorectomy/hysterectomy, body mass index, smoking, and deprivation status.

Main outcome measures: All-cause mortality.

Results: A total of 21,751 women died over an average of 13.5 years follow-up per participant, of whom 6,329 were users and 15,422 non-users. The adjusted hazard ratio (HR) of overall all-cause mortality in combined HRT users was 0.91 (95%CI 0.88-0.94), and in oestrogen-only users was 0.99 (0.93-1.07), compared to non-users. Age-specific adjusted HRs for participants aged 46-50, 51-55, 56-60, and 61-65 years at first treatment were 0.98 (0.92-1.04), 0.87 (0.82-0.92), 0.88 (0.82-0.93), and 0.92 (0.85-0.98), for combined HRT users compared to non-users, and 1.01 (0.84-1.21), 1.03 (0.89-1.18), 0.98 (0.86-1.12), and 0.93 (0.81-1.07) for oestrogen-only users, respectively.

Conclusions: Combined HRT was associated with a 9% lower risk of all-cause mortality and oestrogen-only formulation was not associated with any significant changes.

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Keywords: Hormone replacement therapy, menopause, mortality, primary care records, THIN.

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