Research

**Use of mobile phones and risk of brain tumours: update of Danish cohort study**

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Abstract

Objective To investigate the risk of tumours in the central nervous system among Danish mobile phone subscribers.

Design Nationwide cohort study.

Setting Denmark.

Participants All Danes aged ≥30 and born in Denmark after 1925, subdivided into subscribers and non-subscribers of mobile phones before 1995.

Main outcome measures Risk of tumours of the central nervous system, identified from the complete Danish Cancer Register. Sex specific incidence rate ratios estimated with log linear Poisson regression models adjusted for age, calendar period, education, and disposable income.

Results 358 403 subscription holders accrued 3.8 million person years. In the follow-up period 1990-2007, there were 10 729 cases of tumours of the central nervous system. The risk of such
tumours was close to unity for both men and women. When restricted to individuals with the longest mobile phone use—that is, ≥13 years of subscription—the incidence rate ratio was 1.03 (95% confidence interval 0.83 to 1.27) in men and 0.91 (0.41 to 2.04) in women. Among those with subscriptions of ≥10 years, ratios were 1.04 (0.85 to 1.26) in men and 1.04 (0.56 to 1.95) in women for glioma and 0.90 (0.57 to 1.42) in men and 0.93 (0.46 to 1.87) in women for meningioma. There was no indication of dose-response relation either by years since first subscription for a mobile phone or by anatomical location of the tumour—that is, in regions of the brain closest to where the handset is usually held to the head.

Conclusions In this update of a large nationwide cohort study of mobile phone use, there were no increased risks of tumours of the central nervous system, providing little evidence for a causal association.