Impact on colorectal cancer mortality of screening programmes based on the faecal immunochemical test

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OBJECTIVE: Colorectal cancer (CRC) screening programmes based on the guaiac faecal occult blood test (gFOBT) reduce CRC-specific mortality. Several studies have shown higher sensitivity with the faecal immunochemical test (FIT) compared with gFOBT. We carried out an ecological study to evaluate the impact of FIT-based screening programmes on CRC mortality.

DESIGN: In the Veneto Region (Italy), biennial FIT-based screening programmes that invited 50-69-year-old residents were introduced in different areas between 2002 and 2009. We compared CRC mortality rates from 1995 to 2011 between the areas where screening started in 2002-2004 (early screening areas (ESA)) and areas that introduced the screening in 2008-2009 (late screening areas (LSA)) using Poisson regression models. We also compared available data on CRC incidence rates (1995-2007) and surgical resection rates (2001-2012).

RESULTS: Before the introduction of screening, CRC mortality and incidence rates in the two areas were similar. Compared with 1995-2000, 2006-2011 mortality rates were 22% lower in the ESA than in the LSA (rate ratio (RR)=0.78; 95% CI 0.68 to 0.89). The reduction was larger in women (RR=0.64; CI 0.51 to 0.80) than in men (RR=0.87; CI 0.73 to 1.04). In the ESA, incidence and surgery rates peaked during the introduction of the screening programme and then returned to the baseline (2006-2007 incidence) or dropped below initial values (surgery after 2007).

CONCLUSIONS: FIT-based screening programmes were associated with a significant reduction in CRC mortality. This effect took place much earlier than reported by gFOBT-based trials and observational studies.

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