### Men and postmenopausal women with iron deficiency had increased risk of gastrointestinal malignancy


**QUESTION:** Does iron deficiency, with or without anaemia, increase the risk of gastrointestinal malignancy?

**Design**
Cohort study with 2 years of follow up.

**Setting**
USA.

**Participants**
9024 civilian, non-institutionalised persons 25–74 years of age (60% women, 83% white) who participated in the National Health and Nutrition Examination Survey (NHANES I) and the NHANES I Epidemiologic Followup Study (NHEFS). Exclusion criteria were a history of cancer reported during NHANES I and missing iron saturation and haemoglobin measurements at baseline.

**Assessment of risk factors**
Baseline data were collected on iron deficiency (iron saturation < 15%) and anaemia (haemoglobin concentration < 5th percentile for each age and sex group). Separate analyses were done for premenopausal women, men and postmenopausal women, age ≥ 50 years, and age ≥ 65 years. Within each group, participants were grouped into 4 diagnostic categories based on their anaemia and iron deficiency status.

**Main outcome measures**
Diagnosis of gastrointestinal malignancy (ie, any malignancy of the oesophagus, stomach, small intestine, colon, or rectum) within 2 years of measurement of iron saturation and haemoglobin concentrations. Outcome assessors were blinded to iron saturation concentrations.

**Main results**
716 participants (8%) were iron deficient; of these, 143 (1.6%) were also anaemic. 18 participants (0.2%) had a diagnosis of gastrointestinal malignancy during the 2 year follow up.

None of the 2708 premenopausal women had gastrointestinal malignancy at 2 years. Men and postmenopausal women (n=6227) with iron deficiency alone (n=223) and iron deficiency anaemia (n=51) had increased risk of gastrointestinal malignancy (table). Similar results were found for persons ≥ 50 years of age (n=4447) and those ≥ 65 years of age (n=2733) (table).

**Conclusion**
Men and postmenopausal women with iron deficiency, with or without anaemia, had increased risk of gastrointestinal malignancy at 2 years.

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### COMMENTARY

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**Conclusion**
Men and postmenopausal women with iron deficiency, with or without anaemia, had increased risk of gastrointestinal malignancy at 2 years.