Physical and psychological characteristics in adolescence and risk of gastrointestinal disease in adulthood

av

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Akademisk avhandling

Avhandling för medicine doktorsexamen i medicinsk vetenskap, som kommer att försvaras offentligt fredag den 3 mars 2017 kl. 13.00, Hörsal C3, Universitetssjukhuset Örebro

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Abstract


Background and objectives: Physical fitness and stress resilience may influence the risk of gastrointestinal (GI) disease. High physical fitness level may reduce levels of systemic inflammation while psychosocial stress exposure can increase inflammation levels and intestinal permeability. The main objectives are to evaluate if poorer physical fitness and stress resilience in adolescence are associated with a raised risk of inflammatory bowel disease (IBD), peptic ulcer disease (PUD) and GI infections in adulthood and to assess evidence of causality.

Materials and methods: Swedish registers provided information on a cohort of approximately 250,000 men who underwent military conscription assessments in late adolescence (1969–1976) with follow-up until December 2009 (up to age 57 years). Cox regression evaluated the associations of physical fitness and stress resilience in adolescence with subsequent GI disease risk in adulthood.

Results and conclusions: IBD: Poor physical fitness was associated with an increased risk of IBD. The association may be explained (in part) by prodromal disease activity reducing exercise capacity and therefore fitness. Low stress resilience was associated with an increased risk of receiving an IBD diagnosis. Stress may not be an important cause of IBD but may increase the likelihood of conversion from subclinical to symptomatic disease. PUD: Low stress resilience was associated with an increased risk of PUD. This may be explained by a combination of physiological and behavioural mechanisms that increase susceptibility to H. pylori infections and other risk factors. GI infections: Low stress resilience was associated with a reduced risk of GI infections, including enteric infections rather than the hypothesised increased risk.

Keywords: Physical fitness, stress resilience, adolescence, inflammatory bowel disease, peptic ulcer disease, gastrointestinal infections.

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