

Prevalence and predictors of colonoscopy-related distress in individuals undergoing FIT-based colorectal cancer screening: a population-based study



Linda Sharp,¹ Nicola Shearer,^{2,3} Ronan Leen,^{2,3} Colm O'Morain,^{2,3} Deirdre McNamara^{2,3}
¹ National Cancer Registry Ireland; ² Department of Gastroenterology, Adelaide & Meath Hospital incorporating the National Children's Hospital; ³ Department of Clinical Medicine, Trinity College Dublin

Contact details: linda.sharp@ncri.ie



The Adelaide and Meath Hospital, Dublin
Incorporating the National Children's Hospital

Background

- Like all forms of screening, colorectal cancer screening involves a balance between costs and benefits.¹ In terms, of benefits, evidence suggests that organised, population-based, colorectal cancer screening is likely to reduce colorectal cancer incidence and mortality in the population.² Costs of screening have received less attention.
- Evidence is accruing from other cancer screening programmes that taking part in screening may have adverse psychological consequences for some people. Those screened may experience anxiety while awaiting screening test results, or following receipt of a positive test result. Adverse psychological effects may also be experienced in relation to diagnostic tests, in those who have a positive screening test.
- Compared to other cancer screening programmes, relatively little is known about the psychological after-effects of colorectal cancer screening.

Aims

We investigated psychological distress following diagnostic colonoscopy in people who had had a positive faecal immunochemical test (FIT) in the population-based Adelaide and Meath Hospital/Trinity College Dublin Colorectal Cancer Screening Programme (TTC-CRC-SP).

Methods

Study population

- The study was nested within the second round of the TTC-CRC-SP. Almost 10,000 individuals aged 50-74 years, registered with general practices in the Tallaght area of Dublin, were invited to be screening by FIT.³ The first screening round took place 2008-10 and the second 2010-12.
- Participants provide two faecal samples which were analysed using OC Sensor. Samples with >100ngHb/ml were considered positive.
- Those who tested positive were assessed by a clinical nurse specialist and, if suitable, offered diagnostic colonoscopy within four weeks. Colonoscopies were performed by experienced gastroenterologists at a single hospital.

Data collection and analysis

- Approximately two-months post-colonoscopy, those without cancer were sent a questionnaire by post. This included the Impact of Event Scale⁴, a validated and reliable 15-item measure of subjective psychological distress associated with a specific stressful or traumatic event – in this case, the colonoscopy. Respondents assess how often they had experienced each of the 15 items in the last seven days (e.g. "I thought about it [the colonoscopy] when I didn't meant to").
- Distributions of distress scores, and percentages with significant colonoscopy-related distress (IES score ≥9), were compared between subgroups of participants, using the Wilcoxon signed rank test.

Results

Characteristics of participants

- 201 completed questionnaires were received.
- Of respondents, 47% were male; 75% were married; 29% were working; 56% had completed primary education only; 57% had a medical card; and 37% had private health insurance.
- 18% had a family history of colorectal cancer; 30% had previously had another colonoscopy; and 75% had participated in the first screening round

Distress scores

- The mean distress score was 12.1 (sd=14.10); the median score was 6 (inter-quartile range 2-17).
- 42% scored in the range for significant colonoscopy-related distress.
- 25% had mild distress; 13% had moderate distress; and 4% had severe distress.

Which groups have higher distress scores?

- Distress scores varied significantly by educational level; history of depression; perceived severity of colonoscopy; and level of health anxiety (Figure 1).
- The following were borderline significantly associated with distress: having a medical card; having more children; having previous had a another colonoscopy; and higher perceived risk of colorectal cancer.
- Age, gender, marital status, employment status, social support, self-rated health pre-colonoscopy, family history of colorectal cancer, and participation in the first screening round were unrelated to distress.

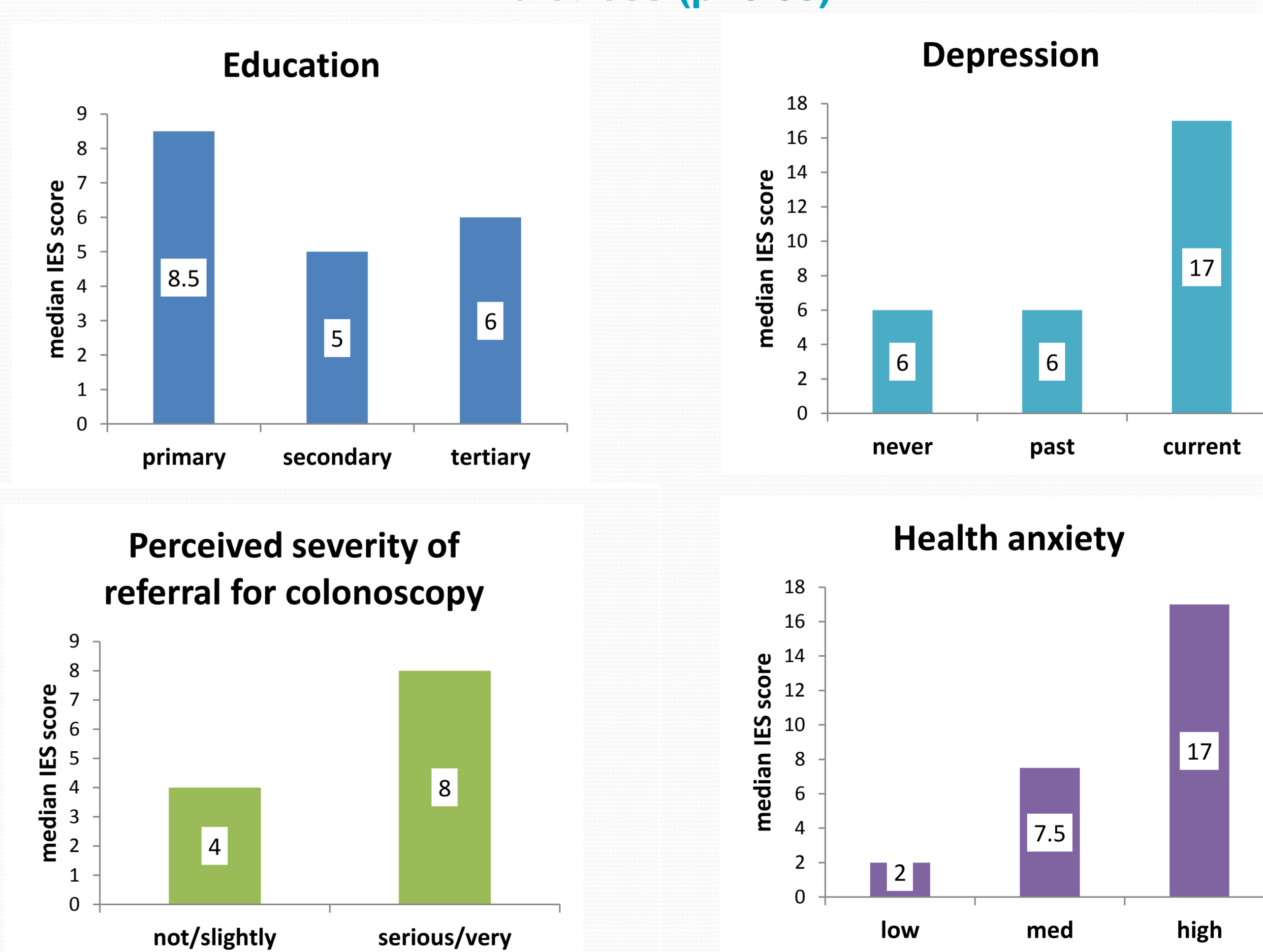
How do colonoscopy-related distress scores compare to those from other settings?

- Levels of distress in this group were higher than in the general population, but similar to those among women undergoing follow-up after a positive cervical smear test (Table 1).

Table 1: Comparison of IES distress scores in the current study with those from other settings and populations

Colonoscopy-related distress scores in this study* were.....
Much higher than distress scores in the general population
• US study of people asked to recall an upsetting event: median=1 ⁵
Much higher than distress scores in "screening-like" contexts
• 2-months post-CT scan for lung cancer in smokers: mean=3.6 ⁶
• 1-week after endoscopy in patients with Barrett's oesophagus: mean=3.5 ⁷
Slightly lower than distress scores in high-risk groups undergoing surveillance/testing
• women at high breast cancer risk about to undergo MRI: mean=14.5 ⁸
• high-risk group about to undergo genetic testing for HNPCC: mean=14.7 ⁹
Similar to distress scores in women undergoing follow-up after an abnormal cervical smear test in routine screening
• 6-weeks after follow-up by colposcopy examination: % distressed=32% ¹⁰
• 6-weeks after follow-up by repeat smear: % distressed=39% ¹¹
*current study: mean=12.1; median=6; % distressed=42%

Figure 1: Factors significantly associated with colonoscopy-related distress (p<0.05)



Conclusions

- Like other types of screening, this novel study suggests that participation in colorectal cancer screening may impact adversely on the psychological wellbeing of a significant proportion of people. This is especially important because screening participants are members of the general population rather than patients who have presented for investigation of a health problem.
- There is a need to develop strategies to minimise or alleviate these adverse effects. There is an opportunity to do this at an early stage in colorectal cancer screening, especially in Ireland where the national programme has only commenced roll-out.
- More generally, adverse psychological effects should be recognised as important (albeit unintended) consequence of screening. In particular, negative psychological effects should be taken into account when weighing costs and benefits of screening programmes.

References

- Raffle A & Gray M. Oxford University Press, 2007;
- Health Information & Quality Authority, 2009;
- McNamara D et al. Ir J Med Sci 2011; 180: 549-52;
- Horowitz M et al. Psychosom Med 1979;41:209-18;
- Briere J & Elliott DM Assessment 1998;5:171-80;
- van den Bergh KA et al. Br J Cancer. 2010;102:27-34;
- Kruijshaar ME et al. Endoscopy 2006;38:873-8;
- O'Neill SM et al. Br Cancer Res Treat. 2009;115:365-71;
- Shiloh S et al. Psychooncol. 2008;17:746-55.;
- Sharp L et al. Psychooncol 2013; 22: 368-80;
- Sharp L et al., J Lower Gen Tract Dis (in press)

