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Colorectal cancer screening of immigrants to Italy. Figures from the 2013 National Survey

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ABSTRACT

Background. Colorectal cancer screening programmes in Italy invite 50–69-year-old residents for a faecal immunochemical test every two years, regardless of their citizenship.

Abbreviations: CRC, Colorectal cancer; FS, flexible sigmoidoscopy; FIT, faecal immunochemical test; TC, total colonoscopy; ONS, National Centre for Screening Monitoring; adj-RR, adjusted relative risks.

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Methods. The 2013 National Survey on Italian colorectal cancer screening programmes compared immigrants born in low- or middle-income countries with subjects who were born in Italy, by collecting aggregated data on compliance, faecal immunochemical test results, compliance with colonoscopy, detected lesions and stage at diagnosis separately for Italians and immigrants.

Results. Overall, 85 screening programmes invited 3,292,451 subjects, of whom 192,629 had been born abroad (5.9%). Compliance with invitation was lower in immigrants (34.3% vs. 51.3% in Italians), with $p < 0.001$. Compliance was higher in females, regardless of the country of birth, in the youngest age group of immigrants but in the oldest of Italians.

Immigrants showed a borderline excess of standardised faecal immunochemical test positivity rate at first screening (5.4% vs. 5.1% in Italians, $p = 0.05$) and a significant excess at repeat screenings (4.8% vs. 4.4%, $p = 0.002$). The detection rates for carcinoma and advanced adenomas were lower in immigrants than in Italians at first screening (respectively 1.34‰ vs. 1.62‰ and 8.41‰ vs. 9.25‰) — although the differences were not statistically significant — but not at repeat screening (respectively 1.06‰ vs. 0.98‰ and 6.90‰ vs. 6.79‰).

Conclusions. Migrants showed a lower compliance with screening than Italians. The prevalence of neoplasia was lower at first screening and similar to the Italians' at repeat screenings.

Introduction

Colorectal cancer (CRC) represents almost 10% of the global cancer incidence burden, and is the third most common cancer in men and the second most common in women (Bosman, 2014). Incidence varies tenfold between countries worldwide, in both sexes; rates tend to be relatively low particularly in many African countries.

Geographic and temporal variations in incidence, as well as studies of immigrants, have shown that CRC is especially sensitive to changes in environmental exposures, lifestyle and socio-economic level (American Institute for Cancer Research, 1997; Kolonel et al., 1986; Le Marchand et al., 1997). Thus, incidence and mortality are increasing in many countries, transitioning towards higher levels of human development. In contrast, trends appear to be stabilizing or declining in countries that have attained the highest levels of human development (Bosman, 2014).

Studies of immigrants have shown that acquired environmental factors, including, most importantly, diet, have a substantial effect on CRC incidence (Flood et al., 2000; Ladabaum et al., 2014; Shimizu et al., 1987). The dietary changes due to the immigrants' acculturation have been shown to be significant (Monroe et al., 2003) and support an association between CRC risk and certain dietary components.

Thus, even if the risk of CRC among immigrants coming from low/medium-income countries is expected to be lower than among the native population of a high-income country, it cannot be excluded that the immigrants can acquire the lifestyle and hence the risk of disease of the natives, even if the greatest changes in dietary behaviour (and, correspondingly, nearly all the change in CRC rates) have been shown to occur between the first and second generations of immigrants (Monroe et al., 2003).

Therefore, it is of primary importance to attain a high coverage of the immigrant population with effective strategies to contrast CRC, like population-based organised screening programmes actively inviting the target population, which have been shown to significantly reduce CRC-specific mortality (Hewitson et al., 2007; Brenner et al., 2014).

Immigration to Italy is a relatively recent phenomenon. In 1991, foreigners residing in Italy were less than 1% of the total population, while in 2013 they were 7.4%, and over 16% in some cities (Istituto Nazionale di Statistica, 2006). In the target age for colorectal screening, the proportion is lower, accounting for 3.1% of males and 4.9% of females (Istituto Nazionale di Statistica, 2015).

Colorectal cancer screening programmes in Italy cover the majority of the resident population. Where active, screening programmes invite all the resident population without any difference as regards citizenship (Zappa et al., 2011). All the screening programmes systematically collect information about invitations, test results, colonoscopies and histologies, and participate in a national survey (Zorzi et al., 2012). In 2013, the survey included a focus on the immigrant population.

In this paper, we compare the results of Italian colorectal screening programmes in immigrant vs. native populations in 2013.

Methods

Colorectal-cancer screening programmes in Italy

According to the European Commission's recommendations (European Commission, 2008), the Italian national guidelines recommend a faecal occult blood test every two years for subjects aged 50–69 years or a flexible sigmoidoscopy (FS) once in a lifetime at 58 or 60 years of age.

The majority of the Italian programmes employs the faecal immunochemical test (FIT) (apart from some — mainly restricted to Piedmont region — that has adopted FS and FIT for non-responders to FS) for subjects aged from 50 to 69 or 70 years.

All FIT programmes invite their target population by mail every two years to undergo a one-time FIT. People with a negative FIT are advised to repeat screening in two years. Subjects with a positive screening test are contacted to undergo a total colonoscopy (TC), which is usually performed at an endoscopic referral centre. Patients with screen-detected neoplasms are referred to surgery or endoscopy, and then enrolled in a follow-up programme.

The screening programme national survey

Since 2005, on behalf of the Ministry of Health, the National Centre for Screening Monitoring (ONS) has carried out annually a national survey on the activities performed by CRC screening programmes, whose results are published in a report (Zorzi et al., 2012).

Programmes are required to report aggregated data regarding the entire screening process, including the numbers of invitations and screened subjects, the results of the diagnostic workup, and the treatment and stage at diagnosis of screen-detected cancers.

The survey methods were developed by the GISCoR (Gruppo Italiano per lo Screening Colorettale) in 2007 (Zorzi et al., 2007) and are consistent with the minimum dataset of indicators for the European guidelines (Segnan et al., 2010).

The immigrants survey

In 2013, the ONS promoted the collection of information on immigrant subjects inside the national survey. This survey regarded immigrants from low- and middle-income countries, which were identified according to a list from the Italian Ministry of Health (De Giacomi et al., 2009).

Data about citizenship was available from very few programmes; most of them classified as immigrants the subjects who were born in one of the countries of interest.

Data on immigrants were collected with the same form used for the official survey and were provided by age, gender, and rank of screening episode (first vs. repeat test), but not by country or geographical area of origin.

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