Chapter 4
Access to Colon Cancer Screening of Migrants in Four European Countries

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4.1 Background

Risk prevention and mitigation play a major role in reducing the incidence of cancer cases. If the exposure to cancer cannot be avoided, the next step would be making efforts to minimise the negative effects of exposure, e.g. enabling early detection of cancer cases. These strategies can be organized at an individual or at a population level. One of the main interventions at population level to decrease premature deaths is to ensure access to screening and early detection services. This type of screening can reduce dramatically the mortality from breast, cervical and colorectal cancer. Estimates show that a total of 256,670 men and women died of these three cancers in 2012 in the EU Member States (including Croatia), even though many of these early deaths were preventable (International Agency for Research on Cancer 2017). Population-based colorectal cancer screening has proven to be effective in reducing colorectal cancer incidence and mortality. The uptake of population-based programmes proved higher than spontaneous screening, confirming this type as more effective than other types of screening, such as spontaneous screening (Ferroni et al. 2012). Both letter-based and GP-based invitation programmes seemed effective, but the former appeared more cost-effective (Ferroni et al. 2012).

Therefore, the implementation of such population-based screening approaches with well-defined target population, screening intervals and appropriate follow-up would reduce the burden of these cancers in the European region. Access to quality screening services plays a major role in the success of screening programmes (International Agency for Research on Cancer 2017; European Commission 2017).

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Colorectal cancer (CRC) is much more common in developed countries and is associated with dietary habits and environmental risk factors. It is recommended that screening starts at around the age of 50 using faecal occult blood tests and endoscopic exams. Colorectal cancer is the second most common cancer in Europe, causing over 200,000 deaths per year (European Colorectal Cancer Screening Guidelines Working Group, 2013).

CRC screening tests are ranked in three tiers based on performance features, costs, and practical considerations. The first-tier tests are colonoscopy every 10 years and annual faecal immunochemical test (FIT). These tests are recommended regardless of being included or not in a population based type of screening, and they are also tests of choice when several alternatives are available. FIT should be offered to patients who decline colonoscopy, in a sequential fashion. FIT screening is also appropriate in populations with an estimated low prevalence of advanced neoplasia, whereas colonoscopy screening is recommended in high prevalence populations. The second-tier tests include CT colonography every 5 years, the FIT-faecal DNA test every 3 years, and flexible sigmoidoscopy every 5–10 years. A third-tier test is capsule colonoscopy every 5 years. Screening should begin at age 50 years in average-risk persons (Rex et al. 2017). CRC incidence is rising in persons under age 50, and thorough diagnostic evaluation of young persons with suspected colorectal bleeding is recommended (Rex et al. 2017).

In Europe to date, only the faecal occult blood test (FOBT) for men and women aged 50–74 years has been recommended by the EU for CRC screening (European Colorectal Cancer Screening Guidelines Working Group, 2013). Moreover, any other screening technique included should follow the principle listed by the Council of Europe Recommendation and be evidence-based. Although the use of endoscopic screening methods is increasing, the majority of colorectal cancer screening examinations performed in the EU use the evidence-based test recommended by the Council of Europe.

The current status of colorectal cancer screening in Europe shows 23 countries having their programmes either already implemented or in the planning phase, with the implementation started only in the 2000s. More than 110 million women and men are being targeted by these population-based programmes. For colorectal cancer the International Agency for Research on Cancer (IARC) and the European Commission report that there are currently population based screening programmes at national level in 15 Member States, while in 4 Member States population based screening programmes exist only in some regions, and in 9 Member States no programmes exist for the moment (but in 6 of them several CRC screening actions are scheduled for 2016) (European Commission 2017). Though a majority of the screening is still based on FOBT, large proportions of the target population have access to screening using endoscopy (flexible sigmoidoscopy or total colonoscopy). In Europe the screening interval for gFOBT/FIT programmes is 2 years in all the countries except Austria and Latvia where screening is done yearly. Within the non-population-based programmes, screening with colonoscopy is offered at 10 years interval in Austria, Czech Republic and Germany and at 5 years interval in Greece. Within population-based programmes, colonoscopy is offered once in a lifetime in

Poland as it is the case for sigmoidoscopy in Italy and England (International Agency for Research on Cancer 2017; European Commission 2017).

Eurostat shows that the self-reported screening, i.e. the proportion of people aged 50–74 years having had a colorectal cancer screening test within the specified time periods, in 2014 or nearest year, varies greatly in different European countries (European Commission n.d.). The EU-28 estimate average of the European population having had a colonoscopy ever is less than 50%. Countries such as Romania, Cyprus, Bulgaria and Estonia (followed closely by Norway) are the ones reporting the highest proportion of people who never had a colonoscopy in their life. Germany, Austria, Slovenia and Czech Republic were the countries where the above mentioned proportion was the lowest.

Secondary cancer prevention programs are particularly important for migrants because they often underuse preventive care or fail to make return medical visits, and often lack cancer awareness. Migrants are more likely to receive a diagnosis of cancer at an advanced stage. Limited access to screening is one possible reason for this. Another element to consider is that the inclusiveness of the target population database chosen to issue invitations for screening purposes depends on how complete is the database and on the eligibility of individuals, e.g. electoral registers might not include eligible foreigners or dates of birth (European Colorectal Cancer Screening Guidelines Working Group, 2013).

In the USA, colorectal screening tends to be lower for migrants than for the native population. However, screening patterns converge towards that of the native population as the length of stay in the country increases (Arnold and Razum 2012). Risk factors change over time upon arrival in the host country, and changes in a lifespan can be mixed, both positive and negative. Factors such as dietary changes, physical inactivity, weight gain and obesity, smoking, all contribute to a shift in migrant population's risk profile. Therefore, despite the presence of the well-known "healthy migrant effect", for which immigrants have a better health profile and overall lower mortality than hosts in Western countries, the convergence of mortality for hosts and immigrants with increasing duration of residence suggests that "healthy migrant effect", and negative acculturation effects may counteract each other. The "healthy migrant effect" explains how on average migrants arriving in a host country are healthy, and this is explained as they would represent a pre-selected healthier cluster of their population of origin. On the contrary, the assimilation of cultural traits of the local population, such as alcohol consumption or increased dietary fat, would lead to a deterioration of the originally better migrant health profile. Arnold et al. (2009) analysed the literature for cancer risk diversity in non-western immigrants to Europe and found that they show an overall lower all-cancer morbidity and mortality compared with the native population. Nevertheless, they noticed considerable site-specific risk diversity. While migrants from non-western countries were more prone to infections-related cancers, e.g. liver, cervical and stomach cancer, at the same time they were less likely to get cancers related to western lifestyle, e.g. colorectal, breast and prostate cancer. Therefore, there is a strong need of culturally sensitive cancer prevention and screening programmes that take into account the specific needs and risk profiles of migrants, also at the individual level.

This chapter aims at investigating the access to colorectal screening programs among migrants through a review of the literature and at analysing some original data from four European countries.

4.2 Review of the Literature

We reviewed the literature searching for original papers and reviews focusing on the uptake and the barriers to access CRC screening for migrants in Europe; in addition, we analysed original data from four European countries coming from the European Health Interview Surveys (EHIS).

The literature search was performed on Pubmed electronic database, through free Google and Google scholar search and snowballing selected articles references. The Italian grey literature was retrieved from national and regional websites, including the Ministry of Health website. The European Commission and the International Agency for Research on Cancer (IARC) websites were searched for the European grey literature. Guidelines and reports were also found in official European Union or European Commission websites.

Pubmed Search Terms

1. "migrant"[Title/Abstract] AND ("neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "cancer"[All Fields]) AND ("2007/09/01"[PDAT]: "2017/09/01"[PDAT]) AND "humans"[MeSH Terms].
2. "migrant"[Title/Abstract] AND "cancer screening"[Title/Abstract] AND ("2007/09/14"[PDat]: "2017/09/13"[PDat] AND "humans"[MeSH Terms]).

There are very few literature reviews regarding the access to health services in general and even less specifically focused on access to screening by migrants. The screening methods used in the original data were gFOBT (guaiac-based faecal occult blood test) and colonoscopy, while in the original articles we found FOBT, sigmoidoscopy and colonoscopy in the US (Idowu 2016), FIT (faecal immunochemical test) in the Netherlands (with colonoscopy offered to those with a positive sample) (Woudstra et al. 2016), FOBT in the UK (Robb et al. 2008), FOBT for France (Le Retraite et al. 2010). We will analyse the results comprehensively, despite that different countries have different CRC screening techniques in their programmes.

In the systematic review by Norredam et al., there are only four studies focused on screening services, and none of them refers to colorectal cancer screening; they are focused instead on mammography (2) and on cervical screening (2) (Norredam et al. 2010). Nevertheless, the findings show a lower uptake of cancer screening services among migrants compared with the indigenous population in all four studies. The systematic literature review by Graetz et al. on utilization of health care services by migrants (Graetz et al. 2017) found that all screening practices (mammography for breast cancer, cervical cytology for cervical cancer, abdominal aortic screening for aneurysm, and finally colorectal cancer screening through gFOBT or flexible sigmoidoscopy) were far less utilized by migrants than by the resident population. The studies were conducted in different European countries, such as Spain, Sweden, Germany, Denmark, Greece and the Netherlands, the only exception being a single German study involving Turkish immigrants, that showed higher screening services utilization compared to the local population (though study results were regarded as inconsistent with the European trend).

Frederiksen et al. report that participation in colorectal cancer screening was almost half as frequent in migrants compared with native Danes (Frederiksen et al. 2010). Accordingly to this study, that analysed how the participation to systematic CRC screening was affected by socioeconomic factors, low SEP (socioeconomic position) was associated with lower testing with FOBT. Moreover, non-western immigrants were also less likely to uptake the screening, but this difference was likely attributed to the lower SEP in the ethnic groups considered.

In another paper included in this systematic review by Carrasco-Garrido et al., a study was conducted on awareness and uptake of cancer screening in Spain (Carrasco-Garrido et al. 2014). By 2010, six Spanish autonomous regions had implemented population-based screening programmes for CRC, representing 40% of the total Spanish population (Ascunce et al. 2010).These programmes include men and women aged 50–69 years as their target population using faecal occult blood test (FOBT) every 2 years. Adherence to these programmes ranged from 5.4 to 21.6%. Among the results, the study shows that subjects born in Spain reported higher awareness of all cancer screening programmes and specifically of FOBT (OR 1.41; 95% CI: 1.16–1.71) than immigrants. The highest uptake was found for mammography (74.46%; 95% CI: 71.96–76.14), followed by Pap smears (65.57%; 95% CI: 63.09–66.83), PSA (Prostate-Specific Antigen) (35.19%; 95% CI: 32.43–37.94) and FOBT (9.40%; 95% CI: 7.84–11.23). However, it has to be considered that the uptake for CRC screening in Spain is overall much lower than in other European countries such as UK or Italy (e.g. 56.8% in the UK and 44.6% in Italy) (Carrasco-Garrido et al. 2014) .

The possible explanations given for the lower screening uptake among migrants range from lack of information to lack of screening tests tailored for migrants, low socio-economic status, socio-demographic or linguistic issues and finally lack of health insurance (Graetz et al. 2017). Socio-economic status, including education, employment and income, plays a significant role in migrant health in general, and since migrant populations are usually more financially disadvantaged, their health profile tends to get worse upon years after arriving in the host country (Dinesen 2011).

A paper authored by Le Retraite et al. (2010) focuses on the impact of the place of residence on participation, or lack thereof, in a CRC screening in Marseille, France. The study finds that migrant participation in CRC screening is lower compared to the non-migrant population, with differences in participation related to higher presence of migrants in a district. However, the differences observed do not seem to be attributable to migrant status, this being more likely to represent a proxy of other intrinsically related socioeconomic factors (Le Retraite et al. 2010). Another qualitative study conducted in the Netherlands (Woudstra et al. 2016) shows how a low level of Dutch language was the biggest barrier to CRC screening. Mistrust, misconceptions and low self-efficacy were all counted as other reasons for low CRC uptake. Practice implications included a request for more easily accessible information, such as verbal and visual information in the mother tongue of the recipients. A bigger involvement of the GP was also suggested as a means of higher self-efficacy. A further research paper looks at attitudes to CRC screening among minority groups in the UK (Robb et al. 2008). As also previous literature highlighted, that socioeconomic status affected CRC uptake more significantly than ethnicity alone. Regarding possible barriers to accessing CRC screening, shame and embarrassment seem to be the leading causes for disinterest towards screening programmes and lower CRC screening uptake.

A further review of the literature was performed in order to find other sources treating this subject, but it only retrieved a few articles. We performed a broader search using less and more undefined terms on Pubmed and Google, but only retrieved papers useful for describing the context.

4.3 Original Data Analysis on CRC Screening

We tried to integrate the literature available on migrants' access to CRC screening through the analysis of data coming from European Health Interview Surveys (EHISs) and National Health Interview Surveys (HIS) and other data sources from different European countries on colorectal screening coverage. The screening methods considered are gFOBT and colonoscopy, which are among the techniques recommended by the American and European CRC screening guidelines (Rex et al. 2017; von Karsa et al. 2012).

The data sources were the HISs, respectively 2011 for Spain, 2012–2013 for Italy, 2013 for Belgium and 2014 for Portugal. The indicator chosen was the percentage of persons (aged 50–74) reporting a colorectal cancer screening in the past 3 years. The proportion of interviewed subjects reporting a gFOBT colorectal cancer screening was 17.2% (17.5% among nationals and 11.1 among migrants) (Table 4.1).

Information about colonoscopy was analysed for Italy only. Those who underwent a colonoscopy in the last 5 years, aging 50–74 years, were 13.1% among nationals and 7.5% among migrants. Those who never underwent a colonoscopy were 83.4% among nationals and 91.2% among migrants.

4.4 Discussion

Early detection during screening programs for colorectal cancer is a key factor for better survival in high-risk groups. In the original data, focus of this analysis, the proportion of interviewed subjects reporting a colorectal cancer screening was very

Table 4.1 Percentage of subjects who reported a gFOBT by country and immigrant status in four EU countries. Age 50–74

	Belgium	Italy	Portugal	Spain	Total
Nationals					
In the year	8.7	2.5	17.8	4.0	5.0
1–2 year	7.8	10.0	9.5	2.3	8.9
2–3 year	4.1	4.8		1.0	3.6
>3 or never	79.4	82.7	72.7	92.7	82.5
Migrants					
In the year	10.9	1.7	14.3	3.5	4.0
1–2 year	7.1	5.1	3.8	2.5	4.8
2–3 year	6.0	2.2		1.6	2.3
>3 or never	76.0	91.0	81.9	92.4	88.9

low (1 out of 7). Among the considered countries, in Italy, Portugal and Spain the proportion of migrants who reported CRC screening was much lower that of nationals. In other countries, such as the UK, this appears to be due to a general lack of information about colorectal cancer, which was more pronounced among some minority groups (Robb et al. 2008).

Cultural factors may also play a role, e.g. fatalism (the perception of everything as being ordained by fate) was found to be associated with a lower uptake of colorectal cancer screening among elderly African Americans compared to elderly white participants in the USA (Powe 1995). Several studies highlighted how being foreign-born correlates with a lower CRC screening uptake. This may be due to a lack or lower availability of organized CRC screening in the country of origin. Lower awareness of CRC screening is also thought to be associated to lower access to healthcare services in settings such as the USA, where access to public healthcare and health coverage is not guaranteed to the whole population and the non-universalistic health system is quite different from how it is organized in Europe (Idowu 2016). Therefore, the need of wider health education and information provision for immigrants are listed as possible solutions. Moreover, a lack of knowledge of colorectal cancer family history may translate into a low perceived risk of CRC. The health belief model substantially predicts these results. This model theorized that people's beliefs about susceptibility to disease, and about their perceptions of the benefits of prevention, influenced their readiness to act (Idowu 2016).

In the USA, although screening uptake is raising for both immigrant and non immigrant groups, gaps still remain and are linked to citizenship and insurance status (Reyes and Miranda 2015). Wide variations in the recommendations given by the GPs were also noted, suggesting that the first step to improve screening uptake among ethnic minorities could be ensuring that GPs recommend guideline-aligned screening to all patients. Also relevant is using computerized medical records, which through reminders increased the screening uptake, while minimizing the health inequalities among the migrant population (Reyes and Miranda 2015).

Although medical issues and guidelines are defined and meant to be internationally acceptable in principle and application, the context in which patient needs are defined and expectations met, remain one of the biggest challenges. One of the key solutions would lie in recognizing individual needs and resources in order to deal appropriately with increasing cultural and ethnic diversity in the context of a society whose priorities are currently heavily dictated by profit, efficiency, tighter regulations and standardized practices (Norredam et al. 2006).

4.5 Conclusions

Many factors may contribute to hindering migrant access to preventive health services (PHSs), such as length of stay in the host country, ethnic background, culture, religion, levels of health literacy and integration, resulting in inequitable access of migrants to CRC screening. Social factors have a significant role in migrant health and the direction of the causal processes is not always clear. Barriers to access non-urgent health services are identified as organizational issues (both on the administration and on the physician sides), language barriers (and lack of interpreters, which for example prevents from performing telephone consultations), lack of health literacy (not recognizing symptoms and potentially life-threatening health risks), lack of knowledge about availability and benefits of the services, failure in offering culture-sensitive options (Graetz et al. 2017). It is well known that one of the main barriers for screening uptake in the USA is represented by the insurance status (Reyes and Hardy 2015), but it may come a bit as a surprise that the situation is similar in Canada too (Gesink et al. 2014). In Europe, entitlements for migrants vary from country to country (Huddleston 2015).

There is urgent need for a deeper understanding of the barriers between migrants and CRC screening uptake as well as for more and better longitudinal studies, mixed methods and intervention studies in order to obtain better indicators of social determinants and integration. Moreover these indicators also need to be significant at an international level. Many researchers argue that there is urgent need of “intersectional, integrated, multivariate and multilevel approaches” (Ingleby 2012).

Public health issues, such as access to health services and screening, are intrinsically related to poverty, and poverty to immigration, especially in countries where immigrants are not granted free access to preventive care or where health services are not enough culturally sensitive. A so-called intersectional approach would take into account how the multifaceted issues and obstacles to access CRC screening can be tackled, how these barriers interact with each other, how different research and operational areas of action intersect and how this intersection can be utilised to better understand how to guarantee the access to CRC screening to migrants.

Intersectionality, a term coined by Kimberlé Williams Crenshaw, recognizes that certain individuals face multiple and intersecting forms of structural discrimination.

On this issue Östlin (2011) asks: “What are the interactions between the axes of social differentiation and how do these contribute to the patterning of inequity at population level? More specifically, how do economic status, ethnicity, and gender intersect to shape health risks and outcomes?” (Östlin 2011). In order to tackle inequities in health we need an integrated approach that looks at different factors that contribute to create them at the same time. This approach would harmonize the traditional conflicting research fields of social determinants of health and ethnicity studies (Ingleby 2012).

In reality, only a few prevention programmes exclusively target migrant groups (Mackenbach et al. 2008). Preventive health services should be responsive to patient diversity, probably more than other health services. There is a need for diversity-oriented, migrant-sensitive prevention and a need for prevention programs addressing migrants that are large-scale, evidence-based, sustainable and regularly evaluated. Policies oriented to removing impediments to migrants' access to preventive interventions are crucial, in order to encourage more positive actions for those facing the risk of intersectional discrimination (Rosano et al. 2017). An intersectional approach, in the case of CRC screening, would therefore take into account different aspects of the barriers and issues relevant to migrants' access to screening. This would be made possible by enquiring the lives, thoughts, ideas of the group under study. Culture-sensitive services, tailored to the specific needs and expectations of specific ethnic subgroups would be the major step on this path.

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