

RESEARCH COMMUNICATION

Attitudes Towards and Beliefs about Colorectal Cancer and Screening using the Faecal Occult Blood Test within the Italian-Australian Community

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Abstract

Studies with minority ethnic communities worldwide reveal important differences in the content of beliefs about cancer and attitudes towards screening. Current initiatives in colorectal cancer (CRC) screening highlight the importance of identifying any illness-specific beliefs that might influence participation rates within the targeted age-range. We conducted semi-structured interviews with 20 Italian-Australians aged between 50 and 78 years, living in Adelaide, South Australia. Qualitative data from the interviews were analysed using framework analysis. Participants articulated specific beliefs about the nature of cancer, risk factors, prevention possibilities, and variety of potential barriers and benefits to faecal occult blood testing (FOBT). Although participants' beliefs overlapped with conventional medical models of cancer, the results also demonstrated the presence of specific cultural perceptions that might influence FOBT participation. Our results suggest that models used to inform communication about cancer need to be sensitive to culture specific concerns. Within the context of the older Italian-Australian community, there is a suggestion that self and response efficacy may be serious barriers to screening behavior and that bi-lingual, verbal delivery of information may be the most effective mode of communication to increase screening participation.

Key Words: Colorectal cancer - beliefs - screening - Italian-Australians

Asian Pacific J Cancer Prev, 10, 387-394

Introduction

In Australia, colorectal cancer (CRC) is the third highest cause of mortality, and constitutes the second most common cancer for all persons (Australian Institute of Health and Welfare, 2008). These mortality statistics are comparable with those of other developed countries, including the United States (American Cancer Society, 2008) and the United Kingdom (Cancer Research UK, 2008a; 2008b). Because CRCs are typified by long periods of time in a localized and curable condition, population-based screening programs aimed at early detection offer significant benefits in reducing mortality (Young et al., 2006). The Australian Department of Health and Ageing has recognized the need for a comprehensive approach to CRC screening, and began the rollout of the National Bowel Cancer Screening Program (NBCSP) in August 2006. The NBCSP currently offers screening, with a faecal occult blood test (FOBT), to those turning 50, 55 or 65 between January 2008 and December 2010 (Department of Health and Ageing Australia, 2008). Large national screening programs are also being run in other developed countries including Finland, France, Japan, Korea, Scotland and England (International Cancer Screening

Network, 2006). Although large scale screening initiatives have the potential to significantly reduce mortality from CRC, they tend to overlook the needs of minority groups whose health beliefs may differ from that of the general population.

The risk for CRC increases with age, and within Australia, a significant percentage of persons aged over 50 years are from non-English speaking (NES) backgrounds (Australian Bureau of Statistics, 2008b). One of the frequent findings in Australia, and other developed countries, is that participation in cancer screening is lower amongst NES groups (Gilliland, Rosenberg et al., 2000; Shih et al., 2008; Szczepura et al., 2008). In Australia, CRC screening is recommended for people aged over 50 years; within this age group, Italian-Australians represent the largest NES group (Australian Bureau of Statistics, 2008b). Recent findings from the NBCSP confirm that participation rates in Italian-speaking Australians were significantly lower than rates for English speakers (Department of Health and Ageing Australia, 2005). There is a real opportunity to minimize discriminatory health outcomes by assessing the structural and cultural barriers to participation in CRC screening amongst older NES groups and using this information to

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inform and improve population screening initiatives. Cultural explanatory models of illness and the health belief model provide a useful theoretical framework to address these issues. These models are discussed below, following the presentation of a brief ethno-history of Italian migration to Australia.

Italians migrated to Australia in small numbers between 1890 and 1920. Over the following decade, immigration increased notably with the population rising to 26,756 by 1933, in part due to restrictive immigration policies in the United States and Canada (Department of Immigration and Multicultural Affairs, 2001). Between 1933 and 1945, there was a drop off in Italian migration coinciding with World War II. The majority of Italians emigrated to Australia in the first decade following World War II, with the population in 1954 (119,897) being about three times larger than just seven years earlier in 1947 (33,632). The population peaked in 1971 (289,476), followed by a decline over the subsequent years due to an ageing population and an increase in the numbers of Italian-born persons returning home. The 2006 census data estimates the number of Italian born Australian's at 199,123 (Australian Bureau of Statistics, 2008a).

Cultural explanatory models, represent belief systems held by a specific cultural group, about an illness that draw their content and meaning from the social and cultural context within which they occur (Kleinman, 1978; Helman, 1994). This network of beliefs is a practical framework used by individuals to make sense of particular illness (Rajaram and Rashidi, 1998). An understanding of beliefs about cancer held by different cultural groups, promotes understanding of the socio-cultural basis upon which minority groups might refuse participation in cancer screening programs, and can also form the basis for the development of culturally-appropriate intervention strategies (Borrayo and Jenkins, 2001).

Several studies have examined the explanatory models for cancer held by Italian-Australians. Gifford (1994) noted that Italian-Australian women divided cancers into 'benign' cancers (perceived as serious but curable) and 'malignant' cancers (perceived as fatal). The difference between the two types of cancer was seen to lie in the presence or absence of 'roots' that spread into the blood and hence to the rest of the body. Some women suggested that not only were malignant tumors always fatal, but that operating upon such tumors might hasten the spread of the cancer by exposing the roots to the air. A similar classification has been found in Macedonian-Australian, and Greek-Australian samples (Gifford, 1989; Goldstein et al., 2002).

Cultural explanatory models for cancer can conceivably form a logical basis for lower participation in CRC screening. For example, screening may be avoided by Italian-Australian based on the belief that nothing can be done to treat 'malignant' cancers, and that in fact, treatment for such cancers may hasten death. In order to have a sound basis for promoting participation in screening for CRC using the FOBT in any community, we should first identify such cultural beliefs about the illness state, and then examine how these beliefs impact participation in screening programs.

The Health Belief Model (HBM) provides a useful framework for investigating the influences of cultural explanatory models upon people's screening behavior (Rosenstock, 1974; Janz & Becker, 1984). In this model, an individual chooses to engage in a particular health behavior (e.g. screening) based on an assessment of disease threat (a function of perceived severity of the disease, and perceived susceptibility to the disease) and the weighting of perceived benefits of the health behavior against the perceived barriers to the behavior. Also included in the model are cues to action, or triggers for participation. The HBM is limited in that it does not take into account the wider social and ecological context of health behavior and is best thought of as an essential part of the varying decision processes that lead to action (Conner and Norman, 2005). However, the HBM is particularly relevant for the current study as it provides a useful framework for understanding the behavioral and attitudinal beliefs that contribute to health decisions among certain cultural groups. An important way of ensuring the cross-cultural applicability of popular models of health behavior is to use qualitative methods to elicit culturally-specific content about the screening behavior for each of the model constructs (Poss, 1999; Chamot et al., 2001).

Several US studies have investigated illness and screening beliefs for CRC amongst members of minority ethnic groups (Bastani et al., 2001; Kelly et al., 2007; Fernandez et al., 2008; Lasser et al., 2008), and have found different benefits and barriers to CRC screening in ethnically diverse groups. For instance, Bastani et al. (2001) noted that Chinese-Americans preferred to exhaust all eastern forms of treatment before approaching western doctors, suggesting that the perceived benefits of screening for CRC may be lower in this group. The same study also noted that that pain associated with sigmoidoscopy and feeling 'violated' was significantly more often reported as a perceived barrier to screening by non-Caucasian than Caucasian Americans. This research highlights different benefits and barriers to CRC screening in ethnically diverse groups but also highlights the need to conduct research on this issue in Australia where FOBT, a non-painful test, is the primary screening test used.

To date, there have been no studies examining the beliefs of Italian-Australians towards CRC screening. However, there has been some Australian research on the beliefs of ethnic minorities, including Italian-Australians, about mammographic screening for breast cancer. Brushin and colleagues (1997) noted that Greek women perceived a mammogram as necessary only when a lump in the breast had been detected, rather than as a form of early detection and Italian-Australian women suggested that they would not have a mammogram because they felt well and would only see a doctor if their health deteriorated significantly. These findings highlight the need for education in these cultural groups about the reasons for and benefit of early detection of cancer. Common themes amongst all the women interviewed were the belief that the mammogram itself might cause breast cancer, and a preference for breast examination as performed by the doctor, rather than self-examination.

In this paper, we report on a qualitative study to

investigate beliefs about CRC and screening for this cancer using the FOBT in the Italian-Australian community. The aim of this study was to explore possible influences upon participation in FOBT by 1) identifying participants' cultural explanatory models for CRC, and 2) eliciting culturally appropriate content for the constructs within the HBM. On the basis of this study we anticipate developing a program of screening invitations that are culturally appropriate and sensitive to the concerns of Italian-Australians. Such research is particularly urgent given the recent implementation of the NBCSP, the size of the Italian-Australian community in the screening target age group, and the need for health educators and promoters to ensure the cultural propriety of intervention strategies to increase CRC screening within this community.

Materials and Methods

Overview

Semi-structured interviews with Italian-Australians were conducted in the metropolitan areas of Adelaide, the capital city of South Australia. Recruitment was limited to participants born in Italy, rather than simply those who report Italian ancestry. We recruited participants through two Italian-Australian community centers, two women's groups, and two churches which regularly hold mass in Italian. At meetings for the volunteers at the community centres and the women's groups, the first author (G.S) detailed the study aims, methods and the three inclusion criteria (born in Italy, aged between 50 and 80 years and no personal history of CRC) to potential participants. Individuals could then signal their interest in participating, and a time and date was organized for an interview. We also handed out information sheets about the study after Italian mass on two consecutive Sundays at both churches.

The final sample comprised 20 participants - 7 males and 13 females aged 54 to 78 years, from the Italian-Australian community. The majority of participants had completed primary education or some primary education ($n = 14$). Experience with FOBT was extremely low; only 3 of the participants reported having completed the test. Interpretation of this figure is complicated by the fact that several participants reported stool testing, but could not recall whether this had been done in relation to CRC. Sixteen participants reported that they spoke only Italian at home, compared to only 4 who were bilingual.

Ethics

This study was approved by the ethics committee at CSIRO and participants were informed of the requirements of the study, assured that responses would remain confidential and that they were free to withdraw at any time. We also assured participants of anonymity with regards to reporting of all of the results. Participants indicated their consent to participate with signed consent forms that outlined their involvement in the study after appropriate explanation.

Interview Details and Procedure

We designed the final interview schedule of 19 questions, based on an exploration of the variables

included in the HBM, to explore beliefs about CRC and about screening for this cancer using the FOBT. Topic discussed included knowledge of cancer, CRC and FOBT; values underlying health behaviour; and perceived benefits and barriers of screening with FOBT. Participants were also given an FOBT kit which they were allowed to examine and ask questions about.

The first author (G.S) is of Italian descent, fluent in both Italian and English and conducted all interviews. Participants were given the choice of being interviewed in Italian or English. Two male participants chose to complete their interviews in English but all others were completed in Italian. Her fluency in Italian allowed for the same level of intimacy to be reached in both English and Italian interviews, which was important given the private nature of the topic being discussed. All research documents (consent form, information sheet, demographic survey and interview schedule) were also provided in English and Italian and back-translated to ensure semantic equivalence (Beck et al., 2003).

In eight of the interviews, the spouses of interviewees were present and occasionally informally joined the interview, contributing to the discussion. One participant also invited two friends to be involved in the interview. Rather than discouraging this, we embraced the practice as an important indication of the socio-cultural context in which health, and the process of research, needed to be understood within this community. Other qualitative health researchers have previously noted the informal contribution of family members and friends to research processes within minority ethnic communities (Laws and Drummond, 2002). Upon completing data collection, we compared the themes emerging from these interviews with those that emerged from the individual interviews. We observed no substantial difference in themes, and results from all the interviews were included in the final analysis. The duration of the interviews varied from 30 to 90 minutes, and all participants received a tin of coffee as a gift for participating.

Interviews were recorded with audio tapes and the first author (G.S) also took handwritten notes all of which were later translated. A bi-lingual health worker blind to the objectives of the study, conducted the final step in the process, back-translation of the final version of each document, to ensure that the interviewers' interpretations did not differ.

Data Analysis

Data analysis was guided by the principles of framework analysis (Ritchie and Spencer, 1999). This analysis allows the researcher to construct a framework which draws upon a priori issues, emergent issues and analytical themes arising from recurring comments or views. Analysis was predominantly theoretical in that it was driven by a specific focus on themes and issues relevant to the health belief model. However an inductive approach, which allows the researcher to provide a rich overall description of the data set without being constrained by theory, was also applied to allow for the identification of emergent themes and issues (Braun and Clarke, 2006).

Table 1. Thematic Framework for Analysis of Data

Thematic categories	Thematic topics/variables
Cultural explanatory model for CRC	Descriptions of CRC and its effects Risk factors Prevention of cancer and colorectal cancer
The Health Belief Model	Perceived severity of CRC Perceived susceptibility to CRC Benefits of FOBT participation Barriers to FOBT participation Cues to action

CRC = Colorectal Cancer, FOBT = Faecal Occult Blood Test

There are five main stages in framework analysis. The first stage is *familiarisation* with the data through reading and re-reading of transcripts, helping the analyst to form an impression of the key themes emerging from the data. The second stage involves *identifying a thematic framework* based on a-priori issues and emergent themes within the data (see Table 1). *Indexing*, the third stage, involves annotating the data from individual transcripts in accordance with the thematic framework. At the fourth stage, *charting*, the analyst compares evidence of the main themes between the individual transcripts and charts any sub-themes that emerge between participants. The final stage, *mapping and interpretation*, involves drawing together and interpreting these themes and sub-themes in a coherent and structured way that takes into account the original research questions and unanticipated analytic findings.

Results

Cultural Explanatory Models for Colorectal Cancer

Descriptions of Colorectal Cancer

Infection and Growth. Overwhelmingly, participants' descriptions of cancer centred upon metaphors of infection and growth. A number of participants thought cancer resulted from a blockage in the circulation of the blood which becomes infected and then spreads throughout the body: "I think many times it may be... somebody who hurts themselves, and the blood remains inside, and after that, it begins come... like an infection in the blood, and after this cancer can emerge" (Woman, 63 years). Other participants described cancer as a piece of meat which slowly rots or is infected and has the potential to spread to other parts of the body: "Maybe it is like a lump of meat, that starts off small, a piece of rotting meat, that becomes more and more infected, and like this, you become ill." (Male, 73 years). Even if treated, a person was not assured of being completely cured, because the 'roots' of the cancer or infection may have travelled throughout the body to other sites. This is exemplified in a quote from a 59 year-old woman:

My impression is that it is like couch grass, it sends roots everywhere and it just eats you, and gets more into you... Because they say if they don't catch every root of it, and one gets away...

Participants also described cancer functionally in terms of its effect upon the body, as something that 'consumed'

the victim from the inside out, "Maybe it absorbs all the person's nourishment, the cancer, because you lose weight..." (Male, 78 years). Three participants indicated that cancer consisted of cells, although only one of these participants went on to state that the cancer was the result of unregulated cell growth.

Benign and Malignant Cancers. Nine participants specifically articulated a distinction between 'benign' tumors and 'evil' or 'malignant' tumors that could spread rapidly throughout the body and which participants perceived as incurable. This corresponds to the distinction between 'benign' and 'malignant' cancers which Italian-, Greek- and Macedonian-Australian men and women drew in several previous Australian studies (Gifford, 1994; Goldstein et al., 2002).

Risk Factors for Colorectal Cancer

Diet. Dietary risk factors were quoted by 17 participants as increasing the risk of CRC. These factors included the mention of 'unnatural' methods of growing foods and animals, sprays (pesticides) upon fruit and vegetables, and eating too much fat or junk food. When questioned, participants cited these factors as possible causes both for cancer generally, and for CRC specifically, given that such chemically treated foods by necessity passed through the bowel.

...in past years, everything that...that is to say, you went to buy meat or pig, it was a more natural fat. Because now they are many chemicals, that they give them, that we don't know, these chemicals, how they develop, things...what they do, and so this, eating this, maybe it could happen, it can make a person, a cancer or something like this, especially in the intestine... - Male, 66 years

Strong Negative Emotions. Strong negative emotions were described by 13 participants as increasing cancer risk. These included feelings such as stress, sorrow, anxiety and anger as one participant commented, "Stress, even if you have a son who is not well, something, you know. We are Italian, we feel it too much. With these things, this cancer develops" (Woman, 74 years). The belief in strong negative emotions as a cause for a variety of physical illnesses has been noted in previous studies with Italian-Australian women (Gifford, 1994; MacKinnon, 1999). Cultural groups in other countries have also been found to ascribe causation for cancer to "mental stress" (Kohli & Dallal, 1998). Other causes of cancer mentioned by participants included lack of exercise, smoking, destiny, genetics and chemicals/pollution in the air.

Prevention of Colorectal Cancer

Fatalism toward Primary Prevention. Participants frequently expressed the notion that cancer in general, whether in the bowel or elsewhere, is present inside every person's body, but that there are those in whom it develops, and those in whom it does not. One woman explained, "We have all illnesses contained within our body ('incorporato'), but there are those in whom they do or don't develop." This was supported by another woman who suggested, "It is like something that stays dormant, until problems emerge that make it develop. But I think

we all have it.” In a very real sense, participants did not view cancer as something that could be prevented because it exists in some form in every person’s body. Furthermore, participants articulated as risk factors the situations that were not immediately amenable to personal control, “Because how can you prevent it? Changing one’s life? It could be, but I am not sure, I am not sure” (Woman, 70 years). This suggests that participants did not view primary prevention of cancer as a possibility. Despite the fatalism expressed towards the primary prevention of CRC, participants generally expressed optimism about the possibility of the curability of the cancer once it had emerged. This optimism was tempered by a sense of fatalism with regards to more ‘aggressive’ cancers, and by the belief that cancer is a symptomless disease which emerges only once it is well-advanced and beyond curing, as highlighted by one male participant,

Yeah, that’s what I mean, that’s what I hear, the cancer is very...bad illness, because you can’t feel until it get too late, they eat you first, then you die. And when you go there, it is too late.

The Health Belief Model

Perceived Severity of Colorectal Cancer

All participants perceived CRC as a serious illness. Two sub-themes emerged in response to the question about the severity of the disease. The first was the lack of control over the illness and the second was the hidden nature of the disease.

Lack of control. Some participants noted that, despite all the information that existed about being healthy, people they knew continued to be diagnosed with different cancers. There was therefore a sense of fatalism about the primary prevention of all cancers, which is exemplified in the dialogue below between husband (H) and wife (W, 69 years):

H: I think we still haven’t managed to prevent any cancer, if not...

W: If somebody knew exactly how...

H: We catch it at the stage of curing it, but not at the stage of prevention, of preventing. Because prevent it, for example, you can prevent pneumonia, you have the injection for pneumonia and that helps you, whilst for cancer, there isn’t one (injection) yet, a prevention...

W: That they do something that...

H: ...something they can give you against cancer, they give you an injection against cancer? There isn’t one yet, because there are so many types of cancer...

Several other participants cited the failure to produce an effective vaccine to prevent cancer as a reason for the seriousness of the disease.

Hidden Nature. Participants described cancer as a disease without symptoms; as a disease which might be treated in one part of the body, only to re-appear aggressively at other sites, sometimes years later or only once it was too late to cure, “...but little roots, that are forgotten, that they don’t see, those, years and years pass, it grows and grows and grows, they spill out and you don’t

realize, that is the problem” (Woman, 71 years).

Perceived Susceptibility to Colorectal Cancer

Destiny. Participants’ responses to the question about perceived personal susceptibility to CRC fell into two sub-thematic categories. In the first category, some participants linked the question about perceived risk to the concept of destiny; a fatalistic acceptance that there is always the possibility that one might become ill.

...with what I eat, I should never develop cancer, because I’m a ‘health fanatic’ (English), OK. However, I am like everyone else, I am no better than others. If it comes to me, then it comes. – Woman, 54 years

Hope. A second group of answers were in the form of the hope that one would not develop the illness stating, “I don’t know, I don’t know. I wish it wouldn’t come,” or “Let us hope not, let us hope not.”

Benefits of Participation in Screening

The main themes to arise relating to the benefits of participating in CRC screening were the importance of detecting a potential problem early before it became more serious (11 participants), the maintenance of health for both oneself and one’s family (5 participants), and the determination of whether or not one might have cancer (4 participants). Two male participants stated, given that the test was free, people had nothing to lose by completing it, and one male participant stated that completing the test was important for research to establish the efficacy of the test.

Barriers to Participation in Screening

Fear. The most commonly cited barrier, fear of cancer and the desire to avoid knowing whether or not one had cancer, was cited both directly in response to the question about general barriers to testing, and mentioned by some participants as their own reason for avoiding cancer screening generally;

I don’t want to know this. I am frightened of these things. I wish it wouldn’t come upon anyone, that it doesn’t come to me or to anyone else, because it is not a good thing - Woman, 74 years

Some participants stated that many Italian-Australians go so far as to refuse to even mention the word ‘cancer’, because of their fear of the illness. Instead, participants commonly use accepted euphemisms, such as ‘that horrible illness’ (*quella brutta malattia*) in its place. One woman suggested the mere mention of the word ‘cancer’ had a detrimental effect on the body and mind,

Before everything it demoralizes you, to hear ‘cancer’, because I have had it...yeah, before everything ‘cancer’ itself, I think it is not a word that is good for our bodies. It is mental that, you know.

Lack of Awareness. Participants also gave lack of awareness about CRC as a barrier to screening;

I, before all, have not been educated about this test, first thing, because at times when you talk with the doctors, the doctors tell you it is not necessary to do this for the time being, it is not necessary to do that for this other reason. I have not been educated about this test, because every time the doctor has told me, “You have to do this

test", I have gone.— Woman, 59 years

A low level of awareness about CRC was apparent throughout the interviews. For example, participants often repeated that they did not know whether they would be of much help to the interviewer given that they did not know much about the topic. When questioned in general terms as to whether they had heard anything about CRC, only four participants who had had close family members diagnosed answered that they knew something about the disease.

Forgetting. Seven participants suggested that people might forget or neglect to complete the test. Two participants suggested that this might be because there was no urgency attached to testing, "...not that I won't do it, but he didn't have the pressure to do it straight away..." and one male participant suggested that one must "waste time" to do the test.

Low Perceived Risk. Putting off testing was also related to another barrier cited by participants, that of low perceived susceptibility; therefore people might put off testing because they did not think they were at risk of developing CRC, "You are not interested because you don't have this problem, you are not interested because if you don't have a problem, you are not interested" (Woman, 54 years).

Language. It is interesting to note that only two participants mentioned language (inability to read/speak English, or read Italian) as a barrier to completing an FOBT. This is inconsistent with the results of other studies that have been conducted within the Italian-Australian community (Gifford, 1989a; 1989b; MacKinnon, 1998; Drummond et al., 2001). One possible reason that language problems were not mentioned may have been because participants in the present study were occupied in trying to suggest specific barriers to screening with the FOBT, so that they did not mention the more generally applicable barrier of language.

Cues to action

Importance of Verbal Cues. The most frequently cited influences upon health practices for members of the Italian-Australian community were the family doctor (18 participants) and the local Italian ratio (18 participants). Some participants highlighted the beneficial role played by local Italian-speaking doctors who occasionally featured as guests on the Adelaide radio program to discuss different relevant health issues.

Doing an interview with the doctor, maybe the person who hears this, this and that, then they talk to the doctor, what they need for this, what for that, what is good to treat this, what is good to treat the other. The doctor gives explanations, maybe that you go and see a specialist or...
— Male, 63 years

Participants were less enthusiastic about the role of Italian newspapers in communicating information or motivating interest in health issues, and they did not mention information booklets or leaflets. Other important cues to action included television programs (English or Italian), social clubs, and the encouragement of family members.

Discussion

The present study focused on the attitudes towards and beliefs about colorectal cancer (CRC) and the screening process in Italian-Australians. Italian-Australians represent the largest ethnic minority in Australia and understanding how this group perceives illness, particularly CRC, can have great public health benefits.

The participants' cultural explanatory model for cancer appeared to represent a blend of cultural beliefs about the illness and Western biomedical information. For example, participants incorporated messages about diet as a risk factor into their beliefs about cancer believing that the consumption of 'unnaturally' grown foods increases cancer risk. Other studies exploring explanatory models for cancer amongst ethnic minorities have noted this blending of traditional understandings of cancer with biomedical explanations (Chavez et al., 1995).

Given that most Italian-Australian migrants immigrated following World War II, this synthesis between traditional cultural beliefs and mainstream biomedical conceptualizations has probably developed over many years. Future studies in this group should employ measures of acculturation as a way of stratifying research participants because previous research has demonstrated that participants with lower levels of acculturation hold more traditional explanatory models of cancer (Borrayo and Jenkins, 2003). Research has also established that participants with lower levels of acculturation are less likely to adhere to screening guidelines for mammograms, clinical breast examinations and pap smears (Stein et al., 1991; Meana et al., 2001; Graves et al., 2008). Moreover, we would expect that knowledge about cancer in the general public would have increased substantially since World War II in both Australia and Italy. However, Italian-Australians with low levels of acculturation (i.e. those that speak only Italian) may have missed out on educational interventions (i.e. media campaigns) since this time. Thus, it is difficult to know the degree to which differences in current beliefs about CRC in Italian-Australians are confounded by acculturation. Nonetheless, those seeking to promote FOBT participation in this particular NES group will need to be aware of the persistence of some culturally-specific beliefs about cancer, and the influence such beliefs may have upon CRC screening.

Many of the barriers and benefits to CRC screening identified in the present study are similar to those noted in previous research. However, the most frequently cited barrier in the present study was that of fear of finding cancer, or not wishing to find out whether one has cancer. This contrasts with the results of a review of 15 studies in which researchers asked non-participants to name the reasons they had not completed the FOBT (Vernon, 1997). Practical reasons, such as the inconvenience of testing or being too busy, ranked first in seven of the studies. Five out of eleven of the studies reviewed recorded the absence of health problems or CRC symptoms as the first or second most frequent response. However, comparisons are complicated as the present study was limited to eliciting

hypothetical barriers to participation in a naïve sample rather than focusing on non-participants per se. Nevertheless, the desire to avoid knowing whether one has cancer might act to prevent pro-active behaviour. Moreover, it poses the question as to whether screening should be promoted within a community where its members express a desire to avoid knowledge of the presence of a cancer. Researchers have discussed this issue in relation to cancer diagnoses in other non-English speaking communities (Huang et al., 1999; Goldstein et al., 2002) and as yet, no satisfactory resolution on the topic has been reached.

Participants' responses to questions of susceptibility and severity seemed to centre on the notion of 'controllability'. The risk factors nominated by participants (such as eating foods sprayed with pesticides, or experiencing strong emotions) cannot wholly be avoided therefore it makes sense that participants would frame their responses to the question about personal risk in terms of 'hoping' they would not develop cancer, or accepting their destiny. Cancer was uniformly perceived as a serious illness, some participants also believed that cancer was present in everybody. Whilst this fatalism may influence beliefs in the ability to prevent cancer, further research would be needed to determine the amenability of these beliefs to change and the extent to which such attitudes function as a barrier to participation in cancer screening programs.

Many of the health beliefs expressed in the study, such as fear, are likely a result of the cultural explanatory models used by the community to understand cancer and cancer risk. Misconceptions regarding the cause of cancer and its treatment may be responsible for the sense of fatalism and lack of control over the disease expressed by many participants. Community education is required to promote screening, with interviewees suggesting that verbal communication from a doctor was the most effective cue to screening action.

The finding that "word of mouth" is potentially effective is consistent with efforts in the US to promote cancer screening amongst ethnic minorities. These efforts have included tailored soap-operas (Jibaja et al., 2000) and educational sessions conducted by bi-lingual health workers (Navarro et al., 1998). Based on participants' responses in this study, educational material is likely to be more effective if 1) delivered in Italian, 2) delivered verbally, and 3) delivered by members of the community perceived to have expertise on such matters, such as GPs. This finding is particularly relevant to the situation in Australia as it offers a simple alternative to the paper-based, translated educational materials currently being used to promote screening.

Current results suggest that cancer may be viewed through a specific "cultural-lense" suggesting that a 'whole of population' approach to intervention design may be ineffective. Health educators hoping to increase participation in screening amongst members of the Italian-Australian community would need to take into consideration the cultural explanatory models used by the population, and how they differ from the beliefs of the larger population. Moreover, bi-lingual, verbal delivery

of information may be the most effective mode of communicating the benefits of screening.

Acknowledgements

This work was supported by a scholarship from CSIRO Human Nutrition and the Faculty of Health Sciences, University of Adelaide to GS.

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