

A Mixed-Method Study Examining Cancer Screening Uptake among South Asian Ethnic Minorities in Hong Kong

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ABSTRACT

Objective: Utilization of cancer screening is an effective means of cancer prevention. However, South Asian ethnic minorities in Western countries are reported to face barriers in cancer screening utilization, resulting in a low screening uptake by these individuals. The purpose of this mixed-method study is to assess the uptake rate of cancer screening among South Asian ethnic minorities in the Chinese Society of Hong Kong and to examine the factors affecting their participation in cancer screening. **Methods:** This study utilized a sequential mixed-method design, involving two phases. Following the implementation of a self-report survey among South Asian participants via an author-developed questionnaire with 1547 participants in Phase 1, a focus group interview was conducted with 34 participants in Phase 2 to assess the barriers to screening utilization. Convenience sampling was adopted to recruit participants at South Asian community centers in Phase 1, whereas purposive sampling was used for recruiting participants

in Phase 2. **Results:** The findings revealed a low (<40%) uptake rate of cancer screening among the participants. Health illiteracy, language barrier, limited access to health information and screening services, and cultural issues were the major barriers to their cancer screening utilization. **Conclusions:** Our findings provided valuable information for both policymakers and health professionals to better understand the needs of ethnic minorities in Hong Kong. As cancer death rates can be lowered by early detection and primary preventive measures, health professionals should focus on the development of culture-specific interventions. Similarly, training the community health workers can strengthen the primary care system in enhancing knowledge on cancer, its prevention, and access to cancer screening services among local ethnic minorities.

Key words: Cancer screening, ethnic minority, screening uptake, South Asians

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Introduction

Screening is one of the most effective means of cancer prevention.^[1] Currently, several cancer screening tools can be used, including Pap test and mammography, for detecting cervical cancer and breast cancer, respectively. Similarly, prostate-specific antigen (PSA) test is accessible by males for detecting prostate cancer, whereas fecal occult blood test and colonoscopy are commonly available for colorectal cancer detection. In Hong Kong, cancer screening tests are currently available for public use at venues operated by various health-care providers. In particular, screening programs are currently being implemented by the Department of Health of Hong Kong for the detection of cervical and colorectal cancers, with the initiative of facilitating the Hong Kong population in attending regular cancer screening.^[2,3] The public of Hong Kong can access these health and cancer screening services at public and private hospitals as well as at clinics. Meanwhile, various types of medical insurance plans are available in the market to cover the cost arising from utilizing these services.

Despite the availability of these cancer screening services, previous studies showed that ethnic minorities in Western countries, including South Asians, exhibit a low cancer screening uptake rate.^[4-7] Potential obstacles to cancer screening utilization by these individuals were language barrier, misconceptions on cancer risks, and lack of knowledge of the access to cancer screening services.^[8,9]

Although cancer screening uptake among South Asian ethnic minorities has been generally examined in previous studies, limited research was conducted in the context of the Chinese society of Hong Kong as well as the factors affecting screening participation. With the cultural differences between the East and West, South Asians who have acculturated to the local society can indeed have different knowledge levels and perceptions of the importance of cancer screening compared to those residing in Western countries. This study is aimed at examining the utilization rate of cancer screening services by South Asians in Hong Kong and exploring factors that facilitate and hamper these individuals from undergoing cancer screening.

Methods

This study was conducted between December 2012 and May 2014. While ethical approval was obtained from the Ethics Committee of the study institution, the protocol used for this study was published elsewhere.^[10] In brief, this study used a sequential mixed-method design with two phases. In Phase 1, information about the selected screening tests attended by the participants was collected through a self-reported survey modified from the cancer screening section of the cancer module of the National

Health Interview Survey.^[11] The Chinese version of the survey was adopted in our previous studies.^[12-15] The questionnaire comprised six sections, namely (1) perceived health status, (2) previous utilization of complementary therapies, (3) previous utilization of cancer screening services, (4) perceived susceptibility to cancer, (5) family history of cancer, and (6) demographic information. Two versions of the questionnaire were separately used to collect data from male and female participants, as the survey involved the examination of cancer screening behaviors of different cancer types between the two genders. The questionnaire used for the surveys with men and women contained 48 and 69 items, respectively. Indians, Pakistanis, and Nepalis aged 18 or above were eligible to participate in this survey. The participants were recruited through convenience sampling at various South Asian community centers and organizations that provide supporting services for local South Asians. These organizations were approached by our research assistants in order to seek approval from their persons-in-charge for recruiting participants at their centers. The survey was conducted by our research assistants at the premises of these organizations via face-to-face interviews.

In Phase 2, focus group interviews were conducted to explore further on the factors that would possibly facilitate or hamper their cancer screening utilization. Purposive sampling was employed to select 34 participants who had participated in Phase 1 and were able to express themselves fluently during this phase of the study. These 34 participants were further grouped based on their gender and nationality. Interviews were held separately with each group of 5–6 participants. The attempt to interview participant groups separately would enable the participants to express their views and feelings more openly. Questions involved in the focus group interviews can be grouped into several categories including (1) knowledge on breast, cervical, prostate, and/or colorectal cancers; (2) knowledge on strategies for preventing these cancers and screening tests for the detection of such cancers; (3) difficulties encountered in accessing health-care services; and (4) any factors that would influence the participants' decisions to undergo screening. Each interview was held in a quiet room where a member of the research staff fluent in both English and South Asian languages was present. All interviews were audio-taped.

Quantitative data collected in Phase 1 were presented by using appropriate descriptive statistics. Qualitative data collected in Phase 2 were first transcribed into English, with the accuracy checked by the principal investigator. Content analysis was employed to analyze factors affecting screening utilization. Significant quotes made by the participants that

were relevant to the objectives of this study were extracted through multiple examinations of the transcript. In order to generate categories of quotes with similar meanings, coding was performed in assigning a code to each significant statement, while related categories were grouped together to generate themes. The identified themes were discussed among the research team.

Results

Demographic information of the study participants

The survey was conducted among 1547 South Asian participants, of which 503 (32.5%) were Indians, 517 (33.4%) were Pakistanis, and 526 (34.0%) were Nepalis. One participant did not indicate his/her nationality. A total of 791 males and 756 females took part in the survey. While a total of 382 participants (24.7%) were younger individuals aged between 18 and 30 years, 867 (56.0%) were aged between 31 and 50 years, and 298 (19.3%) were aged 51 years or above. A total of 328 participants (21.2%) received tertiary education or above, 339 participants (21.9%) were educated to primary level, and 880 participants (56.9%) to secondary level. The majority of the participants were either under full- or part-time employment ($n = 888$; 57.4%) or homemakers ($n = 473$; 30.6%). Among the participants, 28 (1.8%) reported a family history of cancer.

Cancer screening uptake among South Asians

The survey evinced a very low uptake rate of cancer screening. While 25.9% of the women aged 40 or above ($n/N = 74/286$) had previously undertaken mammogram, 36.9% of women aged 18 or above ($n/N = 279/756$) had ever undergone the Pap test. Moreover, the uptake rate of colorectal cancer screening appeared to be even lower among South Asians, of which only 9.9% of the participants aged 50 or above ($n/N = 32/323$) had previously undergone screening. Similar findings also applied to the uptake rate of prostate cancer screening, where only 4.9% of the male participants aged 50 or above ($n/N = 8/162$) had undergone the PSA test in the past.

Barriers to cancer screening utilization among South Asians

By looking into the qualitative data obtained through the focus group interview, we have identified four factors appearing to have impeded the study participants from utilizing cancer screening services, which are described below.

Health illiteracy

A number of study participants expressed that they did not know what cancer is, its prevalence, consequences,

or the factors that cause the condition. Moreover, they were also imbued with misconceptions about the disease, especially in terms of its causes. For example, some participants believed that cancer was an act of God.

"We just believe that every disease come from God" (Participant A8, female Pakistani group).

Some participants believed that cancer could be developed through an unhealed wound that becomes larger in size over time.

"... Cancer is actually developed through a minor wound and then it develop, it grow more and more ..." (Participant A8, female Nepalese group).

Some participants expressed that wearing tight bras and eating frozen foods could contribute to breast cancer.

"Tight bras, tight dressing, ..., so there are maybe some problems with cancer." (Participant A6, female Indian group).

"The freeze. More eating the freezing items" (Participant A3, female Indian group, when asked about what leads to cancer).

Most participants shared the belief that cancer is incurable. Although a large majority of the participants were able to indicate that cancer can be detected by "advanced technology," they seemed to know little about the types of technology that enabled such detection. Most of the participants expressed that they had no idea when asked about the screening tests used for detecting various cancers. Meanwhile, for participants who were aware of cancer screening tests, they thought that only when they had physical discomforts or symptoms appeared did they need to conduct a screening. For example, some participants claimed that they would undergo mammogram tests only if they felt pain in their breasts.

"When it is pain, I will go. When it is really pain. I will go." (Participant A2, female Nepalese group).

Overall, the findings showed that participants did not have a good understanding on the purpose and importance of cancer screening.

Language barrier

Participants revealed that a lack of health professionals who could communicate in South Asian languages had negatively impacted their screening utilization. The majority of the participants declared that language barrier acted as a crucial deterrent to their effective communication with the health-care professionals and understanding of information.

"In Hong Kong, there are lots of people living from Pakistan, so in hospital, if the government provides us the one last and old language, so it is very good thing, otherwise it is very difficult to interpret sometimes what the hospital said." (Participant A3, male Pakistani group).

"Because of the language, maybe the doctor doesn't know what you have presented or what is the symptom" (Participant A2, male Indian group).

“Yeah it’s a very big problem because we don’t know the language and the government need to do something for that. Because if we have health problems and we don’t know the language, we have a problem we can’t explain.” (Participant A3, female Pakistani group).

As a result, the participants stated that they would only utilize health-care services when they felt compelled to do so.

“I am having a language barrier problem, that’s why I don’t, most often, I don’t go to see a doctor unless I am in a serious condition.” (Participant A2, female Nepalese group).

Some participants even reported that they would ask their friends and/or families to accompany them to screening tests and act as interpreters so that they would be able to understand the instructions and information provided by the health-care professionals.

“Sometimes we bring somebody to translate our language” (Participant A4, female Pakistani group).

“Whenever I need to go to see a doctor, I always need accompany by my friend or either by my husband to see, or else, it is less chance for me to see a doctor.” (Participant A2, female Nepalese group).

Limitations in access to health information

Because language barrier, as discussed, is the major hindrance to the participants utilizing cancer screening, interpreters and translation services are required for them to access health information and health-care services. However, participants found the interpreter services inadequate when they tried to access health-care services.

“There should have interpreter in advance before the people who don’t know the language come.” (Participant A1, female Pakistani group).

Despite the availability of translated health information in South Asian languages disseminated by the government, some participants claimed that they were unable to comprehend the translated materials, which were not reader friendly.

“I think when they translate a document, for example, when we need to translate this document, translators are trained in such a way that they will translate it into very official format. And lay man, common Nepalese will not understand even though it’s our own language.” (Participant A1, male Nepalese group).

Cultural norms

It is a norm among South Asians that females must seek permission from their husbands or fathers before undertaking any health-related activities. Several female participants told us that their husbands’ permission was a decisive factor influencing their decisions.

“I tell my husband that I go to the doctors and discuss with my family also. First I tell my husband and all the family will consider,

then go to the doctor.” (Participant A3, female Indian group).

“I told my husband I need to go to attend a class regarding cancer preventive tests and they introduced some tests to me. So if my husband allows me, ok, you go ...” (Participant A6, female Pakistani group).

Furthermore, South Asians believe that family obligations are of top priority, where males tend to work long hours and females devote most of their time in looking after the family and children. During the focus group interviews, participants who once attended cancer screening reported that irregular working hours and the long queue at health-care providers’ offices for cancer screening were the major obstacles for cancer screening utilization.

“You have wait for a very long time in the government hospital.” (Participant A3, male Indian group).

“I would really really like to see and do a lot of tests. But because of, I have my, you know, irregular time of going to work, I have to do project, I have to handle a lot of things, that’s why, for me, I never get a chance.” (Participant A7, female Nepalese group).

“Many queue in the hospital, that’s why I don’t go.” (Participant A3, female Indian group).

Another important factor is that the Islamic Pakistani participants are unwilling to be checked by health-care professionals of the opposite sex, in which all female participants claimed that they preferred to have female doctors perform the mammogram screening for them. Similarly, male participants also stated their preference of having doctors of the same sex to conduct health checkups for them.

“All Islamic people follow this thing, women check to women, so if our women going to hospital, please request to see the doctor, female doctor.” (Participant A1, male Pakistani group).

“A female doctor will be able to understand other female better. Consult a male doctor; I don’t think he can understand us fully.” (Participant A1, female Pakistani group).

“It’s our religion that we can’t show our private part of body to strange males. That’s why we prefer female doctors.” (Participant A2, female Pakistani group).

Discussion

Consistent with the findings of the past research,^[16] our study demonstrated a considerably low cancer screening uptake rate among South Asians, with at most 36.9% of the population reported to have previously undertaken one particular cancer screening test. Such data demonstrated an urgent need for strategies that can effectively raise the awareness of local South Asians of the importance of screening in cancer prevention.

In this study, we found that South Asians exhibit a low level of knowledge on cancer and possess misconception of the disease. The result was consistent with previous

findings of studies performed in Western countries on the common misconceptions of South Asian ethnic minorities toward cancer.^[17] With limited knowledge on cancer and its prevention being one of the major barriers to South Asians' cancer screening utilization, providing education to these individuals about how to effectively prevent cancer is of utmost importance. For instance, health education delivered in schools dedicated for South Asian ethnic minorities should be enhanced so that young South Asians would become more aware of the strategies required for health promotion, including the use of cancer screening for early detection of cancers. Furthermore, in collaboration with South Asian community centers, health educational interventions including PowerPoint presentations, video clips, health information booklets, small group discussions, and face-to-face counseling may also be conducted. By doing this, health information, particularly the preventive measures of cancer, can be effectively disseminated among local South Asians.^[18,19] In the meantime, previous studies suggested that cultural sensitivity played an important role in the increased effectiveness of educational interventions dedicated for South Asians.^[20] In view of this, learning materials used for such interventions should be linguistically appropriate, with simple contents that are relevant to South Asian culture. To further enhance the cultural sensitivity of the interventions, South Asian community health workers (CHWs) can be employed for intervention delivery. As individuals of the same ethnic origins as the intervention participants, CHWs possess knowledge on the cultural beliefs and practices of South Asians. Based on such knowledge, they will be capable of educating their community peers in a more effective way.^[21]

With a lack of health knowledge as well as misconceptions on cancer being the major barrier for the utilization of cancer screening services among South Asian ethnic minorities, it is, therefore, important for nurses and health professionals to demonstrate effective communication skills during patient interventions. In particular, training should be provided in order to enhance the competence of nurses and health professionals in delivering culturally sensitive health-care service to local South Asians. The strategies should enable a more effective dissemination of information on cancer prevention among South Asian ethnic minorities, especially those with poor English proficiency and low health literacy.

Conclusion

South Asians in Hong Kong have exhibited a low uptake rate of cancer screening, with poor health literacy, language barrier, poor access to health information and cancer screening services, and cultural issues being the four major

barriers. Culturally sensitive educational interventions, delivered by CHWs with the same ethnic group, should, therefore, be implemented so as to enhance their knowledge of cancer preventive measures and awareness of the availability of screening services.

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Conflicts of interest

There are no conflicts of interest.

References

1. World Health Organization. Early Detection of Cancer. World Health Organization; 2019. Available from: <https://www.who.int/cancer/detection/en/>. [Last accessed on 2019 May 14].
2. Department of Health, The Government of Hong Kong Special Administrative Region. Cervical Screening Programme Annual Statistics Report 2017; 2018. Available from: https://www.cervicalscreening.gov.hk/english/sr/files/sr_statistics_stat.pdf. [Last accessed on 2019 Jun 20].
3. Department of Health, The Government of Hong Kong Special Administrative Region. Colorectal Cancer Screening Programme Background; 2018. Available from: https://www.colonscreen.gov.hk/en/public/programme/background_of_programme.html. [Last accessed on 2019 Jun 20].
4. Price CL, Szczepura AK, Gumber AK, Patnick J. Comparison of breast and bowel cancer screening uptake patterns in a common cohort of South Asian women in England. *BMC Health Serv Res* 2010;10:103.
5. Marlow LA, Wardle J, Waller J. Understanding cervical screening non-attendance among ethnic minority women in England. *Br J Cancer* 2015;113:833-9.
6. Jack RH, Møller H, Robson T, Davies EA. Breast cancer screening uptake among women from different ethnic groups in London: A population-based cohort study. *BMJ Open* 2014;4:e005586.
7. Manne S, Steinberg MB, Delnevo C, Ulpe R, Sorice K. Colorectal cancer screening among foreign-born South Asians in the metropolitan New York/New Jersey region. *J Community Health* 2015;40:1075-83.
8. Palmer CK, Thomas MC, McGregor LM, von Wagner C, Raine R. Understanding low colorectal cancer screening uptake in South Asian faith communities in England – A qualitative study. *BMC Public Health* 2015;15:998.
9. Crawford J, Ahmad F, Beaton D, Bierman AS. Cancer screening behaviours among South Asian immigrants in the UK, US and Canada: A scoping study. *Health Soc Care Community* 2016;24:123-53.
10. So WK, Chan CW, Choi KC, Chan DN. Perspectives on the use of and service needs of cancer preventive services for ethnic minorities in Hong Kong: A study protocol. *J Adv Nurs* 2013;69:2116-22.
11. Centers for Disease Control and Prevention. NHIS Survey Description 2006. NHIS; 2005. Available from: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHIS/2005/srvydesc.pdf. [Last accessed on 2019 Jul 02].
12. So WK, Choi KC, Tang WP, Lee PC, Shiu AT, Ho SS, *et al.* Uptake of prostate cancer screening and associated factors

- among Chinese men aged 50 or more: A population-based survey. *Cancer Biol Med* 2014;11:56-63.
13. So WK, Choi KC, Chan DN, Shiu AT, Ho SS, Chan HY, *et al.* Colorectal cancer screening behaviour and associated factors among Chinese aged 50 and above in Hong Kong – A population-based survey. *Eur J Oncol Nurs* 2012;16:413-8.
 14. Ho SS, Choi KC, Wong CL, Chan CW, Chan HY, Tang WP, *et al.* Uptake of breast screening and associated factors among Hong Kong women aged ≥ 50 years: A population-based survey. *Public Health* 2014;128:1009-16.
 15. Chan CW, Choi KC, Wong RS, Chow KM, So WK, Leung DY, *et al.* Examining the cervical screening behaviour of women aged 50 or above and its predicting factors: A population-based survey. *Int J Environ Res Public Health* 2016;13. pii: E1195.
 16. Anderson de Cuevas RM, Saini P, Roberts D, Beaver K, Chandrashekar M, Jain A, *et al.* A systematic review of barriers and enablers to South Asian women's attendance for asymptomatic screening of breast and cervical cancers in emigrant countries. *BMJ Open* 2018;8:e020892.
 17. Karbani G, Lim JN, Hewison J, Atkin K, Horgan K, Lansdown M, *et al.* Culture, attitude and knowledge about breast cancer and preventive measures: A qualitative study of South Asian breast cancer patients in the UK. *Asian Pac J Cancer Prev* 2011;12:1619-26.
 18. Saei Ghare Naz M, Kariman N, Ebadi A, Ozgoli G, Ghasemi V, Rashidi Fakari F. Educational interventions for cervical cancer screening behavior of women: A systematic review. *Asian Pac J Cancer Prev* 2018;19:875-84.
 19. So WK, Chan DN, Rana T, Law BM, Leung DY, Chan HY, *et al.* Development and evaluation of multimedia interventions to promote breast and cervical health among South Asian women in Hong Kong: A project protocol. *Asia Pac J Oncol Nurs* 2017;4:361-5.
 20. Chapman J, Qureshi N, Kai J. Effectiveness of physical activity and dietary interventions in South Asian populations: A systematic review. *Br J Gen Pract* 2013;63:e104-14.
 21. Kim K, Choi JS, Choi E, Nieman CL, Joo JH, Lin FR, *et al.* Effects of community-based health worker interventions to improve chronic disease management and care among vulnerable populations: A systematic review. *Am J Public Health* 2016;106:e3-28.