

# Cancer Screening Abstinence Rates and Rationales Among Regular Outpatients at a Rural Hospital in Japan: A Cross-Sectional Study

Eriko Takeda<sup>1</sup>, Yota Katsuyama<sup>2,3</sup>, Daichi Sogai<sup>1,3</sup>, Li Yu<sup>1,4</sup>, Yasuyo Kumagae<sup>1</sup>, Daiki Yokokawa<sup>4</sup>, Yasushi Shinohara<sup>1</sup>, Kiyoshi Shikino<sup>3,4</sup>

<sup>1</sup>Department of General Medicine, Sanmu Medical Center, Chiba, Japan; <sup>2</sup>Sambunomori Clinic, Chiba, Japan; <sup>3</sup>Department of Community-Oriented Medical Education, Chiba University Graduate School of Medicine, Chiba, Japan; <sup>4</sup>Department of General Medicine, Chiba University Hospital, Chiba, Japan

Correspondence: Kiyoshi Shikino, Department of Community-Oriented Medical Education, Chiba University Graduate School of Medicine, 1-8-1, Inohana, Chuo-ku, Chiba City, Chiba Pref, Japan, Tel +81-43-222-7171 (Ext. 6438); +81-43-224-4758, Email kshikino@gmail.com

**Purpose:** This study aimed to investigate cancer screening rates and the reasons for not undergoing screening among patients who regularly visited the Sanmu Medical Center.

**Patients and Methods:** This prospective observational study recruited patients aged  $\geq 40$  years with regular clinic visits to Sanmu Medical Center during October 2019. We conducted a self-administered survey to determine the patient's sex and whether they underwent cancer screening in 2019, and if not, the reason for the same. The primary outcome measure was the percentage of people who did not undergo cancer screening.

**Results:** A total of 198 responses (108 male respondents) were obtained. Among them, 189 were valid responses (valid response rate 94.5%). One hundred and twenty-nine patients (68.2%, 76 male) had not undergone screening. The most common reasons provided were "I have regular regular clinic visits and do not think they are necessary" (N = 65, 50.3%), "I underwent a gastroscopy within 2 years, a colorectal camera examination within a few years, and a chest radiography within a year" (42.5%), and "I have a separate complete medical checkup" (N = 15, 11.6%). Of the 65 patients who responded that their cancer screenings were unnecessary, 42 patients (64.6%) had not undergone a gastroscopy within 2 years, a colorectal camera examination within a few years, or a chest radiography or examination within a year.

**Conclusion:** Roughly half of the respondents who did not undergo cancer screening elected to abstain because they believed that regular hospital visits were sufficient. Encouraging patients who regularly visit medical institutions to receive cancer screening is therefore necessary.

**Keywords:** cancer screening, internal medicine, non-consultation, rural medicine

## Introduction

Cancer screening plays a crucial role in early detection and prevention, with five types of screenings being widely recommended in Japan: stomach, lung, colorectal, cervical, and breast cancer screening.<sup>1</sup> In Japan, stomach cancer screening, which includes upper gastrointestinal radiography and endoscopy, is recommended once every 2 years for those aged 50 and above, although upper gastrointestinal radiography is also permissible for those aged 40 and above. Lung cancer screening, involving chest radiography, is recommended annually for those aged 40 and above, and colorectal cancer screening, via a fecal occult blood test, is recommended annually for those aged 40 and above.

Despite these recommendations, the National Cancer Survey conducted by the Ministry of Health, Labour, and Welfare has revealed markedly low uptake rates for cancer screenings across the country.<sup>2</sup> Specifically, the uptake rates are 20.4% for stomach, 20.8% for lung, 15.2% for colorectal, 26.1% for cervical, and 22.5% for breast cancer screening.<sup>3</sup> These low participation rates present a significant national challenge, as undetected cancers can progress to advanced stages, subsequently limiting the treatment options available and delaying diagnosis and treatment.

Many studies have used regression analyses and questionnaires to shed light on cancer uptake rates across different populations and cancer type.<sup>4,5</sup> However, there is a notable gap in the understanding of screening behaviors of patients who undergo regular outpatient visits. Commonly cited reasons for not undergoing cancer screening include time constraints, a perceived lack of necessity due to good health, and the belief that one can seek medical attention whenever it becomes necessary.<sup>6</sup>

This study focused on a unique demographic: individuals who regularly undergo medical appointments. This group is intriguing because their frequent interactions with healthcare facilities ostensibly provide ample opportunity for healthcare professionals to recommend cancer screenings. However, preliminary observations and existing literature suggest that regular outpatients might not have higher uptake rates for cancer screening than of the general population.<sup>7,8</sup> Identifying the reasons behind this could reveal specific barriers or misconceptions, even among those with relatively easy access to healthcare services, thereby guiding targeted interventions to enhance cancer screening rates within this subgroup.

Thus, our study aimed to investigate the rate of non-attendance for cancer screening and explore the reasons behind the decision to forego screening among patients who regularly visit the outpatient department of internal medicine in the Sanmu Medical Center.

## Materials and Methods

### Study Design

A cross-sectional study design was used.

### Demographic

In the middle of this crisis, Sanmu Medical Center, located in Chiba Prefecture, stands out as a beacon of hope and resilience. As the only general hospital in Sanmu City, it is situated in one of the regions with the most severe physician shortages in Japan, reflected by its Physician Uneven Distribution Index of 96.1 (ranking in the worst 20 areas).<sup>9,10</sup> Despite these challenges, the hospital has been steadfast in its commitment to addressing the physician shortage.

### Participants

The study participants were patients aged 40 years or older who regularly visited the Department of Internal Medicine at Sanmu Medical Center over 11 days in October 2019. We defined a regular visit as regularly seeing the same physician at every few months. A survey was conducted using a self-administered questionnaire completed by the participants to investigate the sex of the eligible patients, whether they had undergone colorectal, gastric, or lung cancer screening in 2019, and the reasons for not having undergone screening (Box 1). Screening for lung, stomach, and colorectal cancer is incorporated into mass screening for Japanese men aged 40 years of age and above; therefore, these three cancer screening tests were included. Patients may undergo all the three cancer screenings or just a few of them.

#### Box 1 List of Reason(s) for Not Visiting a Physician for Cancer Screening

- I had a gastroscopy within 2 years/colonoscopy within a few years/chest X-ray within a year.
- I did not receive any notice from the city.
- I have taken physical examinations individually.
- I did not know there was a checkup.
- I have been to a hospital for stomach or colon cancer (including other hospitals).
- I am worried about being told I have cancer.
- I did not want to.
- I do not have time to see a doctor.

## Ethics Approval and Consent to Participate

This research was performed following the Declaration of Helsinki and approved by the Ethics committee/Institutional Review Board of Sanmu Medical Center (Sanmu-city, Japan). The researchers provided an explanation to the participants and obtained their informed and voluntary consent. All patient provided a written informed consent.

## Analyses

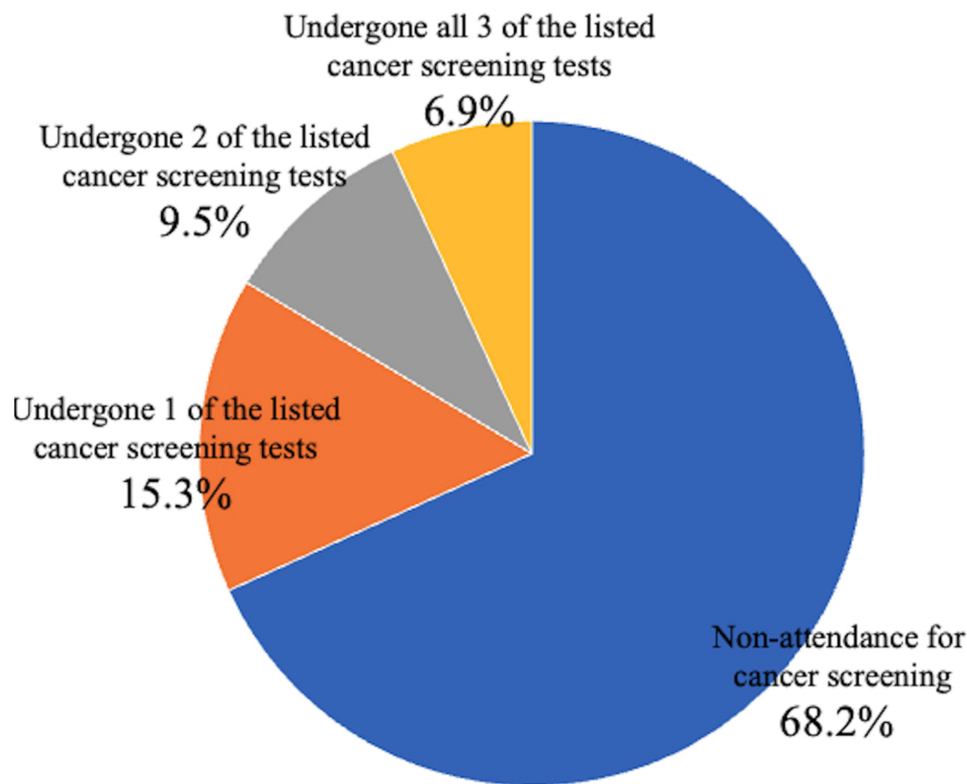
Continuous variables are expressed using medians (interquartile range) and categorical variables are expressed using real numbers (percentages). IBM SPSS Statistics (version 28.0, IBM, Armonk, New York, USA) was used for the statistical analyses. This study was conducted without involving human subjects nor personal information; any patient-related data utilized were fully anonymized prior to analysis.

## Results

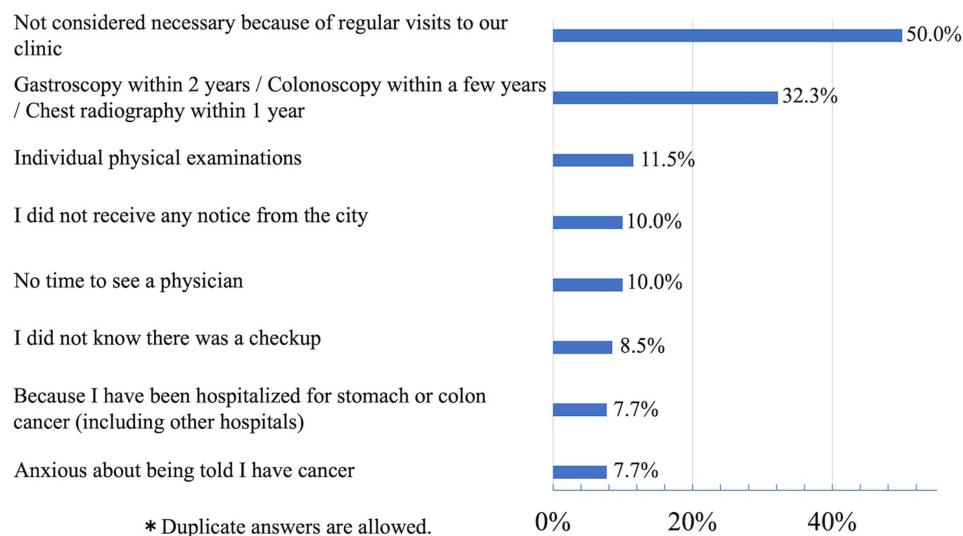
One hundred ninety-eight responses were obtained, including 108 from men and 90 from women. The cancer screening rates and reasons for non-attendance were analyzed for both sexes to provide a comprehensive overview. Among them, 189 were evaluated (valid response rate 94.5%). Of the respondents, 129 patients (68.2%, 76 male) had not undergone colorectal, gastric, or lung cancer screenings (Figure 1). There was no difference in the rate of undiagnosed cases between men and women.

Regarding the reasons for not undergoing cancer screenings, participants provided a variety of responses, with multiple responses allowed. A significant number of respondents (65; 50.3%) expressed, “I have a regular checkup and think it is unnecessary”. This response reflects a notable misconception in differentiating between general health checkups and specific cancer screenings, emphasizing the need for clearer communication and education from healthcare providers.

In addition, 42 respondents (32.5%) indicated that they had undergone specific screening procedures such as “I had a gastroscopy within 2 years/colonoscopy within a few years/chest radiography within a year”. This suggests a level of



**Figure 1** Whether or not you have undergone cancer screening.



**Figure 2** Reasons for not undergoing cancer screening.

engagement in preventative health measures, although it also highlights potential gaps in understanding recommended screening frequencies and the importance of regular screenings for different cancer types.

Furthermore, 15 respondents (11.6%) reported “I have a physical exam separately”, indicating a preference for comprehensive health examinations. While this can be beneficial, it is important to ensure that these examinations include all necessary cancer screenings based on the individual’s age, sex, and risk factors.

Other reasons for not participating in cancer screenings included not receiving any notification (13 respondents, 10.0%), lack of time to see a doctor (13 respondents, 10.0%), being unaware of the screenings (11 respondents, 8.5%), currently undergoing cancer treatment (10 respondents, 7.7%), and anxiety about potentially receiving a cancer diagnosis (10 respondents, 7.7%).

Notably, among the 65 patients who believed that regular clinic visits rendered cancer screenings unnecessary, 42 (64.6%) had not undergone a gastroscopy, colonoscopy, or chest radiography within the recommended time frames. This discrepancy underscores a critical gap in awareness and highlights the importance of targeted educational efforts to ensure that patients understand the value and necessity of regular cancer screenings, even if they are in good health and regularly visiting medical facilities (Figure 2).

This study revealed that a significant proportion of individuals over the age of 40, including both men and women who are regular outpatients at the Sanmu Medical Center, do not participate in recommended cancer screenings. The analysis of both sexes allowed us to identify any sex-specific trends and provided a more comprehensive understanding of cancer screening behaviors.

## Discussion

The survey revealed that of the patients included in this study, approximately 68.2% visited only one medical community hospital was included in this study, and had not undergone cancer screening for either colorectal, stomach, or lung cancer. Stomach cancer screening was the least commonly undergone screening (12.7%), followed by colorectal cancer (20.1%) and lung cancer (22.2%) on a net basis. These study results were similar to data from previous surveys of primary care physicians in Japan.<sup>11</sup> Few studies reported that the most common reason for not undergoing a group medical checkup was that the patient was already visiting a hospital.<sup>12–14</sup> The most common reason for not undergoing group medical checkups was “going to the hospital”.<sup>5</sup> Patients examined at medical institutions may have incorrect perceptions about regular checkups, and it is necessary for healthcare providers to recommend cancer screening to these individuals.

While our study provides valuable insights into the reasons for non-compliance to cancer screenings, it is important to note that our questionnaire addressed cancer screening as a whole, without distinguishing between different types of

screenings. This approach may have obscured specific concerns or barriers associated with particular tests. For instance, some individuals might be deterred by the perceived discomfort, invasiveness, or embarrassment associated with colonoscopies.<sup>15</sup> Future studies should consider employing a more detailed questionnaire that assesses attitudes toward specific screening tests to capture these nuances and provide a more detailed understanding of the barriers to cancer screening. With this, we can better identify and address the specific concerns that may be preventing individuals from undergoing certain types of cancer screenings.

## Limitations

Our study has several limitations that should be considered when interpreting the findings. First, this survey study was conducted at a single facility, and external validity could not be verified in other regions or medical institutions. However, the results of this study may be applicable to a community hospital of the same size as Sanmu Medical Center. We acknowledge the limitations of our study, recognizing that the small sample size and the single-institution nature of data collection over a 1-month period necessitate a cautious interpretation of the conclusions. Second, demographic diversity of our sample was limited, thus affecting the potential generalizability of our findings.

## Conclusion

This study revealed that although patients who undergo regular checkups have easy access to medical facilities, they perceive that cancer screening is unnecessary if they visit a medical facility. Primary care physicians must recommend cancer screening to patients who visit a medical facility.

## Ethics Approval Statement

This research was performed following the Declaration of Helsinki and approved by the Ethics committee/Institutional Review Board Sanmu Medical Center (Chiba, Japan).

## Patient Consent Statement

The researchers provided an explanation to the participants and obtained their informed and voluntary consent. All patients provided written consent.

## Author Contributions

All authors made a significant contribution to the work reported with respect to the conception, study design, execution, acquisition of data, analysis, and interpretation. All authors contributed to drafting, revising, or critically reviewing the article, and gave their final approval of the version submitted for publication. All authors have agreed on the journal for submission and agree to be accountable for all aspects of the work.

## Funding

There is no funding to report.

## Disclosure

The authors declare no conflicts of interest in this work.

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