

Influence of Risk Perception and Physician Recommendations on the Adoption of Examinations for Early Detection of Breast, Cervical, Oral and Colon Cancers in Rural Thiruvananthapuram

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ABSTRACT

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Early cancer detection is crucial in reducing mortality rates, especially in rural areas with limited healthcare access. This cross-sectional study investigates how risk perception and physician recommendations influence the adoption of screening practices for breast, cervical, oral, and colon cancers among 160 women aged 30-65 years in rural Thiruvananthapuram. The findings show that a significant proportion of participants perceived their cancer risk as low, which correlates with lower screening rates. Physician recommendations played a key role in motivating patients to undergo screening, but many did not receive such advice. This highlights the need for enhanced communication between healthcare providers and patients to improve risk awareness and increase cancer screening uptake.

Keywords: Risk Perception, Physicians Recommendation, Early Detection, Breast Cancer, Cervical Cancer, Oral Cancer, Colon Cancer

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INTRODUCTION

Cancer remains one of the leading causes of death worldwide,¹ with late-stage diagnoses significantly contributing to high mortality rates.^{2,3} In India, cancer detection often occurs at advanced stages, particularly in rural areas where access to healthcare facilities and awareness about preventive measures are limited.⁴ Early detection of cancers such as breast, cervical, oral, and colon cancers can greatly improve the chances of successful treatment and survival.⁴

“Risk perception plays a pivotal role in individuals’ decisions to undergo cancer screening.⁴ Many rural residents may underestimate their cancer risk due to a lack of knowledge or cultural beliefs, leading to low participation in screening programs. Physician recommendations are crucial in motivating patients to engage in cancer screening, particularly in low-literacy settings. However, when physicians fail to provide these rec-

ommendations, opportunities for early detection are missed.⁵

This study aims to explore the influence of risk perception and physician recommendations on the adoption of cancer screening practices in rural Thiruvananthapuram. By understanding the barriers to screening, we can develop targeted interventions to improve early detection rates.

MATERIALS AND METHODS

This cross-sectional study aimed to assess factors influencing the adoption of cancer screening among 160 female patients aged 30-65 years attending outpatient departments in rural Thiruvananthapuram. Participants were selected from four government-run primary care centers and one private facility, focusing on their cancer risk perception and physician recom-

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mendations. This age group was specifically chosen as the Priority Screening Group due to their higher risk of developing breast, cervical, oral, and colon cancers.

Ethical approval for the study was obtained from the Institutional Ethics Committee of Sree Gokulam Medical College. All participants were interviewed after obtaining written informed consent, ensuring that they were fully informed about the study’s purpose and procedures before participation.

Inclusion Criteria:

Patients aged 30-65 years who had visited the same healthcare provider within the past six months were included in the study. Those who had undergone cancer screening within the previous six months were excluded to focus on individuals who were not already engaged in screening.

Data Collection:

Data were collected using a self-administered questionnaire that gathered information on demographic characteristics, health history, perceptions of cancer risk, and whether participants had received cancer screening recommendations from their healthcare providers. Barriers to screening were also explored, such as a lack of awareness about the need for screening, perceived low risk, fear of the disease, and logistical challenges.

Study Variables:

Study variables included demographic characteristics such as age, educational status, self-perceived risk of cancer, physician recommendations for cancer screening and the actual uptake of screening tests for diabetes, hypertension, breast, cervical, oral, and colon cancers. Barriers to screening were also explored, with participants identifying factors such as a lack of awareness about the need for screening, perceived low risk of developing cancer, fear of the disease, lack of nearby screening facilities, and personal factors like embarrassment or indifference.

Statistical Analysis:

Descriptive statistics, including frequencies and percentages, were used to summarize the socio-demographic characteristics and key study variables.

RESULTS

The study included 160 participants aged 30-65 years from rural Thiruvananthapuram. The socio-demographic characteristics, cancer risk perception, physician

recommendations, and cancer screening practices are summarized below.

Socio-demographic Characteristics and Cancer Risk Perception

Table 1 presents the socio-demographic characteristics and self-perceived likelihood of developing cancer among participants. The majority (51.25%) had completed high school, and a significant proportion (53.12%) perceived their cancer risk as “very low” or “somewhat low.”

Table 1. Socio-demographic Characteristics and Cancer Risk Perception	
Priority Screening Group (Aged 30–65) (n=160)	
Age Group	
30-45	40%
46-65	60%
Educational Status	
Illiterate	3.75%
Literate	17.5%
High School	51.25%
Graduate	23.13%
Postgraduate	4.37%
Self-perceived Likelihood of Cancer	
Very Low	53.12%
Somewhat Low	14.3%
Moderate	21.8%
Somewhat High	7.5%
Very High	1.8%
Could early detection help outcome?	
Yes	84.3%

Physician Recommendations and Screening Practices

Physician recommendations were a key factor in determining screening uptake. Among participants, 56.25% reported not receiving any recommendation for cancer screening from their physician. However, 84.5% of those who received a recommendation proceeded with screening, underscoring the importance of physician involvement.

The rates of physician recommendations and subsequent screenings for diabetes and hypertension were notably higher than those for cancer, particularly for oral and colon cancers, where uptake was significantly lower (**Figure 1**). This discrepancy highlights the need for physicians to prioritize cancer screening recommendations in routine consultations. If physicians place the same emphasis on cancer screening as they do for other non-communicable diseases like diabetes

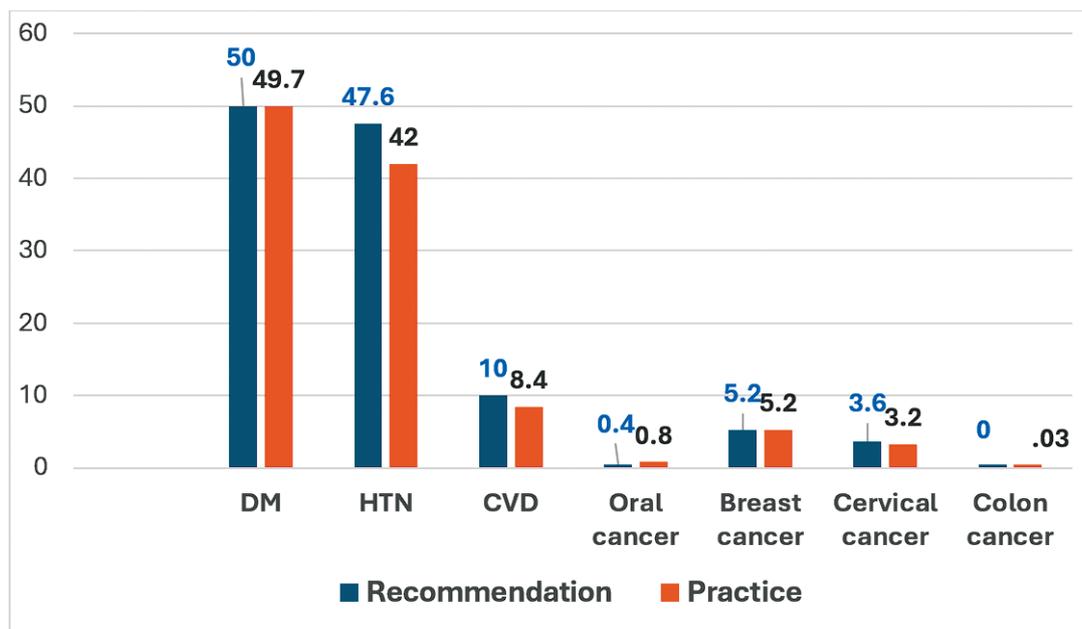


Figure 1. Physicians’ Recommendation and screening practices of NCDs

and hypertension, it could significantly improve cancer screening rates and lead to earlier detection and better outcomes.

Barriers to Cancer Screening

Several barriers contributed to the low uptake of cancer screening (Table 2). The most common were lack of knowledge (38.75%) and fear of disease (10.62%).

Table 2. Barriers to Cancer Screening	
Priority Screening Group (Aged 30–65) (n=160)	
No recommendation from physician	56.25%
Didn’t know that screening was needed	38.75%
Thought I would never get the disease	10%
Fear of disease	10.62%
No screening facilities nearby	3.75%
Not going to worry until it happens	6.25%
Embarrassment	2.5%
Other	1.87%

The study also assessed the likelihood of participants undergoing regular cancer screening if recommended. Those who perceived their risk as low were less likely to engage in regular screening, even if they received a physician’s recommendation. Conversely, participants with a higher perception of risk were more inclined to adhere to screening protocols.

DISCUSSION

The results of this study highlight the critical role of physician recommendations and risk perception in

cancer screening uptake among women in rural Thiruvananthapuram.⁶ A significant portion of participants underestimated their risk of developing cancer, which contributed to low screening rates. This finding is consistent with previous studies showing that individuals with low perceived risk are less likely to participate in screening programs.^{7,8} Physician recommendations emerged as a powerful motivator for screening, with 84.5% of those who received a recommendation proceeding with screening. However, over half of the participants reported not receiving such recommendations, revealing a gap in clinical practice that needs to be addressed.

Impact of Perceived Cancer Risk on Screening Uptake

The results show that over 67% of the participants perceived their risk of developing cancer as “very low” or “somewhat low.” This low risk perception is a key barrier to the adoption of screening practices, as those who perceived themselves as being at low risk were less likely to undergo regular screening, even if recommended by a physician. Previous studies have shown similar patterns, where lower perceived cancer risk is associated with reduced participation in screening programs.⁷ Addressing this gap in awareness is crucial, as improving individuals’ understanding of their actual cancer risk could help motivate them to adopt early detection practices.

Barriers to Cancer Screening

Several barriers to screening were identified in this study,

with lack of knowledge (38.75%) and fear of disease (10.62%) being the most commonly cited reasons. These findings are consistent with research conducted in similar low-resource settings, which found that lack of awareness about the importance of early detection is a major barrier to cancer screening.⁸ Additionally, psychological barriers such as fear of diagnosis or treatment contribute significantly to patients avoiding screening, even when facilities are available. A small proportion of the participants (3.75%) also cited logistical issues, such as the absence of nearby screening facilities, which is a common challenge in rural areas.⁹

Role of Physician Recommendations

Physician recommendations emerged as a strong motivator for cancer screening, as evidenced by the fact that 84.5% of those who received a recommendation proceeded with the screening. This finding aligns with existing literature, which indicates that physician-initiated conversations about cancer screening significantly increase screening rates, particularly in populations with low health literacy.⁵ However, the study also revealed that a large proportion of participants (56.25%) did not receive any recommendation for cancer screening, suggesting that opportunities for early detection may be missed during routine medical visits. Training healthcare providers to actively discuss cancer risk and screening options with their patients, especially in rural settings, could significantly enhance cancer screening rates.³

The Snehita Risk Calculator, designed for breast cancer risk assessment, is an effective tool that physicians can use to enhance perceived cancer risk among women.¹⁰ By incorporating this tool into routine consultations, healthcare providers can raise awareness and motivate women to undergo early detection tests, such as Clinical Breast Examinations (CBE).¹¹⁻¹³ In addition to CBE for breast cancer, the HPV DNA test for cervical cancer and cost-effective methods like Fecal Occult Blood Test (FOBT) and Fecal Immunochemical Test (FIT) for colorectal cancer should be promoted. Opportunistic screening, such as oral cavity examinations during routine visits, is also an effective, low-cost approach that can significantly reduce cancer-related deaths and improve quality of life.

Comparison to Screening for Other Non-Communicable Diseases

The disparity between cancer screening and screening for other non-communicable diseases (NCDs), such as diabetes and hypertension, was also evident in this

study. While many individuals in rural areas undergo regular screening for NCDs and receive appropriate treatment, cancer screening remains neglected despite its potential for early diagnosis and improved outcomes. This discrepancy may be partly due to the emphasis placed on NCD management in public health campaigns, with less focus on cancer screening.¹⁴ There is a clear need to integrate cancer screening into routine NCD management programs to ensure that individuals receive comprehensive preventive care.

Implications for Public Health Interventions

The findings of this study have significant implications for public health policy, particularly in rural areas where cancer screening uptake remains low. One of the key barriers identified is the lack of physician recommendations, which are known to be a strong motivator for patients to undergo cancer screening. Many participants in this study did not receive such advice, pointing to a gap in clinical practice. Strengthening physician-patient communication through targeted interventions could play a crucial role in addressing this issue. Training programs for healthcare providers, especially primary care physicians, should focus on the importance of discussing cancer risks and providing clear, actionable recommendations during routine consultations. This would ensure that opportunities for early detection are not missed.

Public awareness is another critical area for intervention. Many individuals in rural areas underestimate their cancer risk, resulting in low participation in screening programs. Community-based educational campaigns can be instrumental in raising awareness about the importance of early detection and dispelling myths surrounding cancer. Programmes addressing psychological barriers, such as fear and embarrassment, is essential for improving screening uptake.

In summary, improving cancer screening rates in rural populations requires a multi-pronged approach. This includes enhancing physician-patient communication, training healthcare providers to routinely discuss cancer risks, and implementing public awareness campaigns that target psychological barriers.⁵ By addressing these barriers, healthcare providers and policymakers can improve early detection rates and reduce cancer-related mortality in rural communities.

CONCLUSION

This study underscores the need to improve cancer screening uptake in rural Thiruvananthapuram by

focusing on enhancing physician recommendations and raising awareness about cancer risk. Targeted interventions, such as incorporating tools like the Snehita Risk Calculator and promoting opportunistic screening, can lead to earlier cancer detection. By addressing barriers to screening through improved physician-patient communication and public health campaigns, healthcare providers and policymakers can significantly reduce cancer-related mortality and improve health outcomes in rural areas.

END NOTE

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