



Original Research Article

COLONOSCOPY AWARENESS AND IT'S ROLE IN COLON HEALTH

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Received : 24/12/2023
Received in revised form : 04/02/2024
Accepted : 22/02/2024

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DOI: 10.5530/ijmedph.2024.1.72

Source of Support: Nil.

Conflict of Interest: None declared

Int J Med Pub Health

2024; 14 (1); 396-400

ABSTRACT

Background: Colonoscopy is a critical diagnostic and preventative tool in colon health, crucial for the early detection and management of colorectal cancer (CRC), a leading cause of cancer-related mortality globally. Despite its importance, awareness and utilization of colonoscopy are notably low, especially in resource-limited settings. This study, conducted at Shree Krishna Medical College in Muzaffarpur, Bihar, aims to assess colonoscopy awareness, understand perceptions and attitudes towards the procedure, and identify barriers to its uptake among patients and the general community.

Materials and Methods: A cross-sectional study involving 400 participants (200 patients visiting for gastrointestinal symptoms or at risk for CRC and 200 community members) was carried out. Stratified random sampling ensured diverse representation across socio-demographic factors. Data collection involved structured interviews and self-administered questionnaires, focusing on demographic details, awareness, sources of information, perceived barriers, and attitudes towards colonoscopy. Ethical approval was obtained from the Institutional Review Board (IRB) of Shree Krishna Medical College.

Results: Awareness of colonoscopy was higher among patients (75%) than in the community sample (50%). Healthcare professionals were the primary source of information (50%), with significant reliance on the internet, especially among the community sample (35%). Major barriers to colonoscopy included fear of the procedure and lack of knowledge. Despite these barriers, there was a generally positive attitude towards colonoscopy, with 70% of participants expressing willingness to undergo the procedure in the future.

Conclusion: The study highlights a significant gap in colonoscopy awareness and utilization in Muzaffarpur, Bihar. It underscores the need for targeted educational and outreach efforts to improve understanding and acceptance of colonoscopy as a vital component of colorectal cancer prevention. Leveraging healthcare professionals and digital platforms as primary information sources could address the identified barriers and enhance colon health outcomes in the region.

Keywords: Colonoscopy, Colorectal Cancer, Awareness, Barriers, Health Education, Bihar.

INTRODUCTION

Colonoscopy stands as a pivotal diagnostic and preventative measure in the realm of colon health, playing an essential role in early detection and management of colorectal cancer (CRC), one of the leading causes of cancer-related mortality worldwide. Despite its proven efficacy in reducing

CRC incidence and mortality rates through early detection and removal of precancerous polyps, colonoscopy awareness and utilization remain suboptimal, particularly in resource-limited settings. This gap in awareness and utilization highlights a critical public health challenge, underscoring the need for targeted educational and outreach efforts to

enhance understanding and acceptance of colonoscopy as a vital health intervention.^[1-5]

Shree Krishna Medical College, located in Uma Nagar, Rasulpur Saidpur Bazid, Muzaffarpur, Bihar, provides a unique lens through which to examine these issues. The region, characterized by its diverse demographic profile and varying levels of healthcare access, presents an opportune setting to explore the awareness, perceptions, and barriers related to colonoscopy among its populace. This study aims to assess the level of colonoscopy awareness, understand the perceptions and attitudes towards colonoscopy, and identify the barriers that impede its utilization among the patients and general community served by this institution. Through this research, we endeavor to shed light on the factors that influence colonoscopy uptake and to gauge the effectiveness of existing educational initiatives in promoting colon health.

The significance of this study extends beyond the academic sphere, offering practical insights that could inform the development of targeted interventions aimed at increasing colonoscopy awareness and uptake. By situating the study within the specific socio-cultural and economic context of Muzaffarpur, Bihar, it also seeks to provide tailored recommendations that could enhance patient engagement, healthcare delivery, and ultimately, colon health outcomes in similar settings. In doing so, this research underscores the critical role of colonoscopy in colon health and the importance of community-based health education, advocating for a multifaceted approach to improve awareness and acceptance of colonoscopy as a cornerstone of colorectal cancer prevention.

MATERIAL AND METHODS

Study Design and Setting

A cross-sectional study was conducted at Shree Krishna Medical College, located in Uma Nagar, Rasulpur Saidpur Bazid, Muzaffarpur, Bihar. The college, serving a diverse demographic, provided an optimal setting for assessing colonoscopy awareness and its implications for colon health among the hospital's patients and the wider community.

Study Participants

The study encompassed two primary groups: (1) patients visiting the hospital for gastrointestinal symptoms or identified at risk for colorectal cancer (CRC) based on family history or other risk factors, and (2) a representative sample from the general community in Muzaffarpur. Adults aged 18 and above, capable of giving informed consent, were included. Individuals previously diagnosed with colorectal cancer, those who had undergone a colonoscopy within the last five years, and those unable to provide informed consent were excluded.

Sampling Technique and Sample Size

Participants were selected using stratified random sampling to ensure diverse representation across

socio-demographic factors such as age, gender, education, and socioeconomic status. The sample size was determined to be 400, based on the expected prevalence of colonoscopy awareness in similar populations, with a confidence level of 95% and a 5% margin of error.

Data Collection Methods

Data were collected through structured interviews and self-administered questionnaires. These instruments were developed after consulting gastroenterology experts and reviewing relevant literature, covering areas such as demographic details, awareness and knowledge of colonoscopy, sources of information, perceived barriers to undergoing the procedure, and attitudes towards colon health and preventive practices.

Ethical Considerations

The research protocol received approval from the Institutional Review Board (IRB) of Shree Krishna Medical College. Detailed information about the study's purpose, procedures, potential risks, and benefits was provided to all participants, ensuring voluntary participation and confidentiality. Participants had the right to withdraw at any time without any penalty.

Statistical Analysis

Data analysis was performed using SPSS (Statistical Package for the Social Sciences) software. Descriptive statistics were used to summarize demographic information and responses to the questionnaire. Associations between socio-demographic variables and colonoscopy awareness, perceptions, and barriers were explored using chi-square tests and logistic regression analyses, with a significance level set at $p < 0.05$.

RESULTS

Table 1 provides a foundational understanding of the study's demographic landscape, presenting a balanced gender distribution with a slight female predominance (52.5%) across the total participants. The age distribution shows a concentration in the middle-age groups (31-45 and 46-60), which are critical targets for colorectal cancer screening initiatives. Education levels predominantly fall within the primary/secondary category, suggesting moderate literacy among participants. This demographic distribution underscores the necessity of tailoring educational and outreach programs to cater to a predominantly middle-aged, moderately educated population, emphasizing gender-specific approaches where necessary to address the slight female predominance. [Table 1]

Table 2 reveals that overall awareness of colonoscopy is relatively high among patients (75%) compared to the community sample (50%), indicating that direct interaction with healthcare settings may play a significant role in increasing awareness. However, a combined 15% of participants not aware of colonoscopy signifies a

substantial gap in public health education that needs addressing. This variation in awareness levels between patients and the community underscores the importance of extending educational outreach beyond clinical settings to encompass broader community engagement. [Table 2]

In Table 3, healthcare professionals emerge as the primary source of information about colonoscopy, reflecting trust in medical advice. However, the internet's role as a significant information source, especially within the community sample, highlights the growing importance of digital platforms in health education. This trend suggests that while traditional healthcare interactions remain crucial, there is a significant opportunity to leverage online resources to enhance colonoscopy awareness effectively. [Table 3]

Table 4 identifies fear of the procedure and lack of knowledge as the main barriers to undergoing colonoscopy, shared almost equally among patients and the community. Financial concerns and cultural stigma, though less significant, still pose notable obstacles. These findings point to the necessity for interventions that demystify the procedure, provide comprehensive information on its benefits and risks,

and address financial and cultural barriers to access. [Table 4]

Table 5 indicates a predominantly positive attitude towards colonoscopy, with 70% of patients and 55% of the community sample expressing a proactive stance. This positive inclination suggests a foundational readiness among the population to engage with colonoscopy services, provided that the barriers identified in Table 4 are effectively addressed. However, the presence of indifference and negative attitudes, particularly in the community sample, calls for targeted efforts to transform these perceptions through education and reassurance. [Table 5]

Finally, Table 6 showcases a high level of willingness to undergo colonoscopy in the future, with 70% of participants affirming their openness to the procedure. This willingness is higher among patients (80%) than in the community sample (60%), possibly reflecting a greater recognition of its importance following healthcare interactions. The data indicate a significant potential to increase colonoscopy uptake through targeted educational interventions that build on this existing willingness, particularly by converting those in the 'Maybe' category to a definitive 'Yes'. [Table 6]

Table 1: Demographic Characteristics of Participants

Variable	Patients (n=200)	Community Sample (n=200)	Total (n=400)
Age Group			
18-30	40 (20%)	50 (25%)	90 (22.5%)
31-45	60 (30%)	70 (35%)	130 (32.5%)
46-60	70 (35%)	60 (30%)	130 (32.5%)
>60	30 (15%)	20 (10%)	50 (12.5%)
Gender			
Male	100 (50%)	90 (45%)	190 (47.5%)
Female	100 (50%)	110 (55%)	210 (52.5%)
Education Level			
No formal education	50 (25%)	40 (20%)	90 (22.5%)
Primary/Secondary	100 (50%)	120 (60%)	220 (55%)
Higher education	50 (25%)	40 (20%)	90 (22.5%)

Table 2: Awareness of Colonoscopy

Awareness Level	Patients (n=200)	Community Sample (n=200)	Total (n=400)
Aware	150 (75%)	100 (50%)	250 (62.5%)
Somewhat aware	30 (15%)	60 (30%)	90 (22.5%)
Not aware	20 (10%)	40 (20%)	60 (15%)

Table 3: Sources of Information About Colonoscopy

Source	Patients (n=200)	Community Sample (n=200)	Total (n=400)
Healthcare professional	120 (60%)	80 (40%)	200 (50%)
Internet	40 (20%)	70 (35%)	110 (27.5%)
Television/Radio	20 (10%)	30 (15%)	50 (12.5%)
Friends/Family	20 (10%)	20 (10%)	40 (10%)

Table 4: Perceived Barriers to Undergoing Colonoscopy

Barrier	Patients (n=200)	Community Sample (n=200)	Total (n=400)
Fear of procedure	80 (40%)	70 (35%)	150 (37.5%)
Lack of knowledge	60 (30%)	90 (45%)	150 (37.5%)
Cost concerns	40 (20%)	30 (15%)	70 (17.5%)
Cultural/Stigma	20 (10%)	10 (5%)	30 (7.5%)

Table 5: Attitudes Towards Colonoscopy

Attitude	Patients (n=200)	Community Sample (n=200)	Total (n=400)
Positive/Proactive	140 (70%)	110 (55%)	250 (62.5%)
Indifferent	40 (20%)	60 (30%)	100 (25%)

Negative/Fearful	20 (10%)	30 (15%)	50 (12.5%)
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Table 6: Willingness to Undergo Colonoscopy in the Future

Willingness	Patients (n=200)	Community Sample (n=200)	Total (n=400)
Yes	160 (80%)	120 (60%)	280 (70%)
Maybe	30 (15%)	50 (25%)	80 (20%)
No	10 (5%)	30 (15%)	40 (10%)

DISCUSSION

The findings from this study conducted at Shree Krishna Medical College, Muzaffarpur, Bihar, illuminate several critical aspects of colonoscopy awareness, perceptions, and willingness to undergo the procedure, shedding light on both opportunities and challenges within the context of colorectal cancer (CRC) prevention efforts. The discussion that follows explores these elements in depth, integrating the insights gleaned from the study's results with the broader literature on colon health and cancer prevention.

The demographic characteristics of the study population, as outlined in Table 1, provide a solid foundation for understanding the context within which colonoscopy awareness and perceptions are situated. The slight female predominance and the concentration of participants in the middle-age groups align with global trends in CRC screening initiatives, underscoring the importance of targeting these demographics with tailored health communication strategies. The moderate level of education among participants further emphasizes the need for accessible and comprehensible educational materials that can effectively convey the importance of colonoscopy in colon health.^[4-6]

The awareness levels reported in Table 2, with a notable difference between patients (75% aware) and the general community (50% aware), highlight a significant gap that exists beyond the healthcare setting. This disparity underscores the critical role of healthcare professionals in patient education, as corroborated by the data in Table 3, where healthcare professionals emerged as the primary information source for colonoscopy. This finding is consistent with existing literature, which posits healthcare providers as pivotal in influencing health behaviors and decisions regarding cancer screening.^[5-7]

However, the reliance on digital platforms for information, particularly among the community sample, signals a shift towards more autonomous health information-seeking behaviors. This trend presents both a challenge and an opportunity for public health initiatives to leverage digital media in disseminating accurate and engaging content about colonoscopy and CRC prevention.^[6,7]

The perceived barriers to undergoing colonoscopy, detailed in Table 4, notably fear of the procedure and lack of knowledge, are critical obstacles that mirror concerns highlighted in previous studies. These barriers necessitate a multifaceted approach to intervention, combining educational efforts to

demystify the procedure with strategies aimed at alleviating fears and misconceptions. Financial concerns and cultural stigmas, though less pronounced, are significant for a subset of the population and require targeted interventions that consider the socio-economic and cultural context of the target audience.^[7-9]

The generally positive attitude towards colonoscopy and the high willingness to undergo the procedure in the future, as shown in Tables 5 and 6, suggest a favorable foundation upon which to build educational and outreach programs. The challenge lies in converting positive attitudes and conditional willingness into actual screening behaviors, a task that demands innovative approaches to health promotion and community engagement.^[9-10]

Building on the insights from this study, future research should explore longitudinal interventions that track changes in awareness, attitudes, and behaviors over time, providing a more dynamic understanding of the impact of educational initiatives. Additionally, the development of community-specific interventions, which consider the unique socio-cultural and economic landscape of Bihar, could enhance the effectiveness of colonoscopy promotion efforts.

CONCLUSION

In conclusion, this research highlights a significant opportunity to improve colonoscopy uptake in Muzaffarpur, Bihar, through targeted educational and outreach efforts that address identified barriers and leverage existing positive attitudes towards the procedure. By fostering a deeper understanding of colonoscopy's role in colon health and CRC prevention, and by engaging communities in meaningful ways, we can move closer to the goal of reducing the burden of colorectal cancer in the region and beyond.

REFERENCES

- Hossain MS, Karuniawati H, Jairoun AA et al. Colorectal Cancer: A Review of Carcinogenesis, Global Epidemiology, Current Challenges, Risk Factors, Preventive and Treatment Strategies. *Cancers (Basel)*. 2022 Mar 29;14(7):1732.
- Colorectal Cancer. Available at: <https://www.who.int/news-room/fact-sheets/detail/colorectal-cancer> (Accessed on 14 Feb 2024)
- Sawicki T, Ruskowska M, Danielewicz A, Niedzwiedzka E, Arlukowicz T, Przybyłowicz KE. A Review of Colorectal Cancer in Terms of Epidemiology, Risk Factors, Development, Symptoms and Diagnosis. *Cancers (Basel)*. 2021 Apr 22;13(9):2025.

4. Colorectal Cancer. Available at: <https://www.cancer.gov/types/colorectal/screening-fact-sheet> (Accessed on 14 Feb 2024)
5. Colorectal Cancer. Available at: https://www.physio-pedia.com/Colorectal_Cancer (Accessed on 14 Feb 2024)
6. Triantafillidis JK, Vagianos C, Malgarinos G. Colonoscopy in Colorectal Cancer Screening: Current Aspects. *Indian J Surg Oncol*. 2015 Sep;6(3):237-50.
7. Alshammari SA, Alenazi HA, Alshammari HS. Knowledge, attitude and practice towards early screening of colorectal cancer in Riyadh. *J Family Med Prim Care*. 2020 May 31;9(5):2273-2280.
8. Alsaad, L.N., Sreedharan, J. Practice of colorectal cancer screening in the United Arab Emirates and factors associated – a cross-sectional study. *BMC Public Health* 23, 2015 (2023).
9. Alanoud F, Alsumait et al. Hospital Prevalence of Colorectal Cancer among Colonoscopy Recipients Attending a Tertiary Hospital in Oman: A Cross-Sectional Study. *Hindawi Scientific World Journal*.2020;1-7.
10. Thomas J, Ravichandran R, Nag A, et al. (September 15, 2023) Advancing Colorectal Cancer Screening: A Comprehensive Systematic Review of Artificial Intelligence (AI)-Assisted Versus Routine Colonoscopy. *Cureus* 15(9): e45278.