

## Knowledge and Attitudes of Medical Students Regarding Colorectal Cancer Screening in Lome

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### ABSTRACT

**AIM:** The objective of this study was to evaluate among medical students of the university of lome the knowledge and practice about colorectal cancer screening.

**METHOD:** A cross-sectional study was conducted from March to May 2020 among medical students of the university of Lome. The data were analyzed by STATA 2013 software.

**RESULTS:** The fecal immunochemical test and Fecal occult blood was known by 51.5% of the respondents. students who were unaware of the existence of these tests were 99.1% undergraduate students. The variables statistically associated with the knowledge of these tests were age over 22 years ( $p < 0.001$ ) and the effectiveness of an internship in a department of oncology or digestive pathology

( $p < 0.001$ ). the majority of students (88.1%) knew the frequency of performing these tests, and 28.4% had already requested at least one of these tests, either as part of a screening (93.5%), or in front of a symptomatology of lower gastrointestinal tract (6.4%). Colonoscopy was unknown by 52% of the students. Undergraduate students represented 97.3% of the group not aware of the existence of colonoscopy. The only variable associated with knowledge of colonoscopy was the effectiveness of an internship in an oncology or digestive pathology department ( $p < 0.001$ ).

**CONCLUSION:** The data of our study would suggest that there remain areas that need improvement and that there are several implications for future curriculum development in preventative medicine in general and colorectal cancer screening in particular.

**Key words:** Knowledge; Practice; Medical students; Colorectal cancer screening; Togo

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### INTRODUCTION

Colorectal cancer (CRC) is the third most commonly diagnosed cancer in males and the second in females, with worldwide over 1.4 million new cases and nearly 700,000 deaths reported in 2012<sup>[1]</sup>. This cancer affects the colon in 71% of cases, and the rectum in 29% of cases<sup>[2]</sup>. It ranks third in terms of cancer frequency and second in terms of cancer deaths for all sexes<sup>[3]</sup>. Its frequency shows significant variations. Indeed, the frequency may be distributed according to two geographical areas: on the one hand, Western countries with high incidence rates; on the other hand, developing countries, where rates are relatively low<sup>[4]</sup>. The American Cancer Society (ACS) recommends starting screening at age 45. The tests recommended by the ACS for this screening are grouped into two: visual/structural

tests and stool tests. The visual/structural tests include a colonoscopy every 10 years, a coloscan every 5 years and a flexible sigmoidoscopy every 5 years. Fecal-based tests include a fecal immunochemical test (FIT) every year, and a multitarget DNA (MT-DNA or FIT DNA) test every 3 years<sup>[5]</sup>. Colonoscopy is indicated if one of the fecal tests or flexible sigmoidoscopy or coloscanner becomes positive<sup>[6]</sup>. In Togo, a study conducted from 2009 to 2016 in the Department of Pathological Anatomy and Cytology of the Sylvanus Olympio University Hospital Center in Lome reported that colorectal cancers accounted for 4.8% of all cancers reported<sup>[7]</sup>. These cancers were often diagnosed at an advanced stage<sup>[8]</sup>. This delay in diagnosis is favoured on the one hand by the delay in consultation, and on the other hand by a misinterpretation of the signs of the onset of the disease by general practitioners. In our context of limited technical facilities, the best attitude remains prevention. General practitioners are the closest and most frequently in contact with the population<sup>[9]</sup>. We therefore felt it necessary to conduct this study with the aim of evaluate medical student's knowledge and practice of CRC screening.

## PATIENTS AND METHOD

The present cross-sectional study was conducted at the faculty of medicine - University of Lome (Togo), among medical students from March to Mai 2020. A convenience sampling method was used in the recruitment of students. Informed consent was taken before filling the questionnaire. In the study, we included undergraduate medical and interns. The ethical approval was obtained from the Research Ethics Committee, of the faculty of medicine - University of Lome. The study questionnaire was adapted from surveys identified in the relevant literature. The results are expressed in frequencies and percentages for qualitative variables. Results are expressed in mean ±standard deviation, and independent t-test was conducted to compare the knowledge and practice scores between the different degrees of medical students. The data was analyzed using the STATA 2013. Statistical significance was determined at  $p < 0.05$ .

## RESULTS

A total of 982 medical students answered the questionnaire. The students were within the age range of 17-32 years (mean age of 21.96 ± 3.54 years). The majority of the participants were males (78.3%) and more than half (65.8%) of the participants were undergraduate students. The participants belonged to all academic years from first to 7th years (Table 1).

The fecal immunochemical test (FIT) and Fecal occult blood was known by 51.5% of the respondents. Respondents who were unaware of the existence of these tests were undergraduate students ( $p < 0.001$ ). There was statistical difference between responses for students when analyzed by age ( $p < 0.001$ ) and the effectiveness of an internship in a department of oncology or digestive pathology ( $p < 0.001$ ) (Table 2). Most of the students (88.1%) knew the frequency of performing these tests, and Personal attitudes in regards to cancer screening shown that 28.4% had already requested at least one of these tests, either as part of a screening (93.5%) or in response to a low GI symptomatology (6.4%).

Prior to our study, colonoscopy was unknown to 52.% of the students surveyed. Undergraduate students represented 97.3% of the group not aware of the existence of colonoscopy. The percentage of individuals aware of colonoscopy was higher among females ( $p < 0.002$ ), Postgraduate students ( $p < 0.001$ ), and students who had completed an internship in an oncology or digestive pathology

**Table 1** General characteristics of medical students.

	Effective	Percentage (%)	Mean+/-standard deviation
Age (years)			
Age			21.96+/-3.54
≤ 22	513	52.2	
>22	469	47.8	
Gender			
Male	769	78.3	
Female	213	21.7	
Study cycle			
internship years	336	34.2	
undergraduate years	646	65.78	
Internship in oncology Or digestive pathology			
Yes	219	22.3	
No	763	77.6	

**Table 2** Comparison of medical students knowledge regarding the fecal immunochemical test (FIT) and fecal occult blood.

	n/N	%	OR	95%IC	P-value
Sex					
Male	368/769	47.8	1	-	0.08
Female	138/213	64.8	1.4	[0.13-1.55]	
Age					
≤ 22 years	54/513	10.5	1	-	<0.001
> 22 years	452/469	96.4	0.8	[0.35-0.87]	
Study cycle					
undergraduate years	171/646	26.5	1	-	<0.001
Internship years	335/336	97.6	0.4	[0.24-1.64]	
Internship in oncology Or digestive pathology					
Yes	219/219	100	1	-	<0.001
No	287/763	37.6	0.8	[0.34-0.83]	

**Table 3** Comparison of medical students knowledge regarding the colonoscopy.

	n/N	%	OR	95%IC	P-value
Sex					
Male	343/769	44.6	1	-	< 0.001
Female	128/213	60.1	0.92	[0.34-1.83]	
Age					
≤ 22 years	27/513	5.3	1	-	0.001
> 22 years	444/469	94.7	0.8	[0.50-1.46]	
Study Cycle					
undergraduate years	137/646	21.2	1	[2.24-4.76]	<0.001
Internship years	334/336	99.4	0.5	[0.85-2.61]	
Internship in oncology Or digestive departements					
Yes	212/219	96.8	1	-	<0.001
No	259/763	33.9	0.4	[0.19-0.73]	

department ( $p < 0.001$ ). Of these students, 76.6% knew the frequency of performing colonoscopy for people who have an increased risk of colorectal cancer. The only variable statistically associated with knowledge of colonoscopy was the effectiveness of an internship in an oncology or digestive pathology department ( $p < 0.001$ ) (Table 3). Twenty-five point fifteen percent (25.15%) of our study population had previously requested colonoscopy, either in the presence of lower GI tract symptoms (69.6%) or in the presence of a positive fecal immunochemical test (FIT) and Fecal occult blood tests (21.5%).

## DISCUSSION

Recognition of the importance of teaching prevention is not new<sup>[10]</sup>. US medical schools found that cancer prevention and detection were important topics in the medical school curriculum but more emphasis, time and resources were needed<sup>[11]</sup>. The objective of this study was to evaluate the knowledge and attitudes of medical students of the Faculty of Health Sciences of Lome regarding colorectal cancer screening. The choice to carry out our study among the students of the Faculty of Health Sciences was explained on the one hand by the fact that most of the knowledge of general practitioners is acquired during the years of training. Secondly, carrying out such a study with general practitioners as the study population would have required a multicentre collection in order to obtain a representative sample. Nevertheless, our study is still of interest, as it allows us to evaluate the knowledge of students in the Faculty of Health Sciences regarding colorectal cancer screening.

The participation rate in our survey was 60.9%, significantly lower than that reported by other similar studies<sup>[9,10]</sup>. This difference can be explained by the fact that the study took place at the height of the coronavirus pandemic, when the face-to-face courses were suspended, making it difficult to interview a maximum number of students; nevertheless, the sample size was representative of the target population.

The fecal immunochemical test (FIT) and Fecal occult blood were known by 51.5% of the students. This result is higher than that reported by El Fakir *et al*<sup>[12]</sup> in Morocco (6.7%), but significantly lower than those reported by the European series<sup>[13,14]</sup>. From these results, we can conclude that fecal immunochemical test (FIT) and Fecal occult blood are not well known in sub-saharian Africa because they are not used in current practice. Moreover, the majority of the students in our study were aware of these tests during clinical internships in oncology or digestive pathology departments. This finding explains the existence of a statistically significant relationship between knowledge of colorectal cancer screening with age and the completion of an internship in the above-mentioned services. Only 28.4% of the respondents had already requested at least one of these tests. This low prescription rate could be explained by a lack of awareness of the existence of the tests, and also by the fact that they are generally only requested in specialized services.

Colonoscopy was known by only 48% of the students surveyed. This lack of awareness of colonoscopy as a screening examination was also found in the study by Okon *et al*<sup>[15]</sup> in Côte d'Ivoire, and by Fakir *et al*<sup>[12]</sup> in Morocco, who reported a knowledge rate of 0.4% and 14.8% respectively. However, in the study by Bulliard *et al*<sup>[13]</sup>, 68% of respondents were aware of colonoscopy as a screening test for colorectal cancer. From these results, we can conclude that colonoscopy is not well known in our country because it is not used in current practice. Moreover, the majority of the students in our study were aware of its existence only during clinical internships in oncology or digestive pathology departments. This result explains the existence of a statistically relationship between knowledge of colorectal cancer screening and the effectiveness of an internship in an oncology or digestive pathology departments. Only 25.1% of the respondents had already requested at least one colonoscopy as part of a colorectal cancer screening. This low rate of medical students practice could be explained by a lack of awareness of the existence of this morphological examination.

## CONCLUSION

The data of our study would suggest that there remain areas that

need improvement and that there are several implications for future curriculum development in preventative medicine in general and colorectal cancer screening in particular.

### Author's contributions

Bagny Aklesso designed the study, write the protocol and corrected the manuscript; Dr Kogoe Lidawu Roland-Moïse managed analysis and discussion; Lawson-Ananissoh Laté Mawuli managed the literature searches; Dr Kaaga Laconi: managed the literature searches; Dr Redah Debehoma Venceslas: managed data collection; Dr Gbolou Henoc: managed data collection; Dr Kanake Yves: managed data collection

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