ORIGINAL ARTICLE

# Indications and findings at colonoscopy in Ilorin, Nigeria

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## ABSTRACT

**Background:** Colonoscopy is a safe and effective means of visual inspection of the large bowel from the distal rectum to the caecum. It may be carried out for diagnostic and or therapeutic reasons. There is a paucity of data on this procedure in Nigeria. We, therefore, determined the indications, findings, and diagnostic yield in Nigerians at colonoscopy. **Materials and Methods:** This was a hospital-based cross-sectional study carried out at the Endoscopy unit of Crescent hospital, Ilorin from January 2010 to May, 2012. The endoscopy register was reviewed, and the biodata, indications and colonoscopic findings were recorded on a *pro forma*. **Results:** A total of 103 patients had colonoscopy. Seventy (68.0%) were males while 33 (32.0%) were females. The indications for colonoscopy were rectal bleeding 41 (39.8%), suspected colon cancer 32 (31.1%), chronic constipation and chronic diarrhoea nine each (8.7%), abdominal/anal pain five (4.9%), suspected anorectal cancer and enterocutaneous fistula two each (1.9%), faecal incontinence, occult gastrointestinal bleeding, post-colostomy for Hirschsprung disease one each (1.0%). Endoscopic findings were normal findings 21 (20.4%), diverticulosis 17 (16.5%), polyps 16 (15.5%), haemorrhoids 16 (15.5%), anorectal cancer 13 (12.6%), angiodysplasia 12 (11.7%), colon cancer eight (7.8%), colitis 7 (6.8%), anorectal ulcer 4 (3.9%), anal warts two (1.9%), anal fissure, caecal tumour, faecal impaction and proctitis one each (1.0%). The diagnostic yield was 79.6%. **Conclusions:** The commonest indication for colonoscopy was rectal bleeding, while the most frequent pathology was diverticulosis. The diagnostic yield was high.

**Key words:** Colonoscopy, findings, indications, Nigerians, yield

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## INTRODUCTION

Colonoscopy is a safe and effective means of visual inspection of the large bowel from the distal rectum to the caecum. It may be carried out for diagnostic and or therapeutic reasons.[1,2]

Colonoscopy may be carried out for a variety of reasons such as to investigate the cause of gastrointestinal (GI) haemorrhage, abdominal pain, unexplained changes in bowel habit, suspicion of malignancy, or an abnormality found on abdominal ultrasound, colonic X-rays, barium enema or a computerised tomographic (CT) scan.[2] Individuals with a previous history of polyps, colon cancer and those with a family history of non-colonic cancers or colonic disorders that may be associated with colon cancer may also undergo periodic colonoscopies.[2,3]

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Even though the procedure is widely used in developed countries, it is not readily available in Nigeria.[4-7] There is a paucity of data on the indications, endoscopic findings and diagnostic yield at colonoscopy in Nigerians.[7] Diagnostic yield was defined as the ratio between significant findings detected on colonoscopy and the total number of procedures performed for that indication. In our study, the definition of significant findings was based on certain positive results on colonoscopy. A normal colonoscopy was not considered significant, although this may be relevant to patient care as it may rule out a serious disease in the colon during surveillance. We, therefore, determined the indications and endoscopic findings in Nigerians who underwent colonoscopy.

## MATERIALS AND METHODS

The setting of the study was at Crescent Hospital, Ilorin. It is a private hospital that runs a specialised gastroenterology clinic and GI endoscopic services. It receives referrals for

gastroenterology consultations and lower GI endoscopy mainly from the University of Ilorin Teaching Hospital, Ilorin, other government-owned primary and secondary health facilities and other private hospitals in Ilorin and its environs. This is because this procedure is not available elsewhere in Ilorin. This was a hospital based cross-sectional study carried out at the Endoscopy unit of Crescent hospital, Ilorin from January 2010 to May, 2012. The endoscopy register was reviewed, and the biodata, indications and colonoscopic findings were noted and recorded on a *pro forma*.

All consenting patients, who required colonoscopy as part of their management, were recruited. All colonoscopies were performed with a Pentax video colonoscope with a light source EPM 3300. The patients usually had a 3-day bowel preparation through the use of laxatives comprising Bisacodyl (Dulcolax), Magnesium sulphate (Epsum) salt and lactulose syrup. They were also placed on liquid diet during the period. The patients had intravenous lines, and analgesia and sedation was carried with 10 mg of diazepam and 100 mg of tramadol. A digital rectal examination was done, and, thereafter, the Colonoscopy was carried out according to standard protocol.

## RESULTS

A total of 103 patients had colonoscopy carried out on them during the period. Seventy (68.0%) were males while 33 (32.0%) were females, giving a male to female ratio of 2.1:1. Their ages ranged from 6 to 84 years, with a mean age of 53.4 ± 14.5 years. There was a steady increase in the age of the patients till the sixth decade i.e., 51-60 years; thereafter, there was a decline [Figure 1].

The commonest indications for colonoscopy were rectal bleeding 41 (39.8%), suspected colon cancer 32 (31.1%), chronic constipation and chronic diarrhoea nine each (8.7%), abdominal/anal pain five (4.9%), suspected anorectal cancer and enterocutaneous fistula two each (1.9%), faecal incontinence, occult GI bleeding, post-colostomy for Hirschsprung disease one each (1.0%) [Figure 2].

Endoscopic findings were Normal findings 21 (20.4%), diverticulosis 17 (16.5%), polyps 16 (15.5%), haemorrhoids 16 (15.5%), anorectal cancer 13 (12.6%), angiodysplasia 12 (11.7%), colon cancer eight (7.8%), colitis 7 (6.8%), anorectal ulcer four (3.9%), anal warts two (1.9%), anal fissure, caecal tumour, faecal impaction and proctitis one each (1.0%) [Figure 3].

The diagnostic yield in this study was 82 out of 103 (79.6%) [Figure 4].

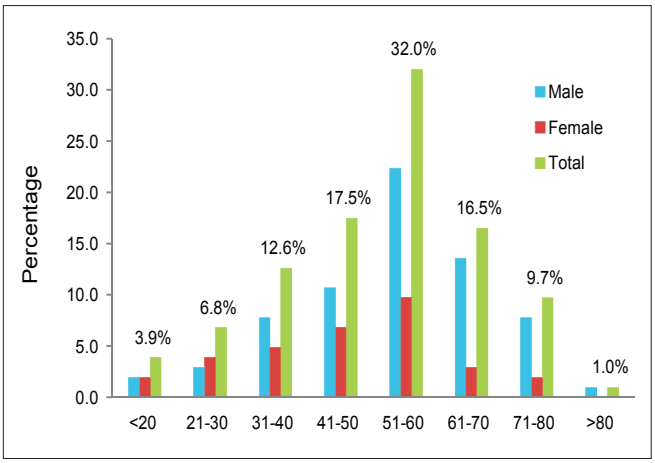


**Figure 1:** Age and gender distribution of patients

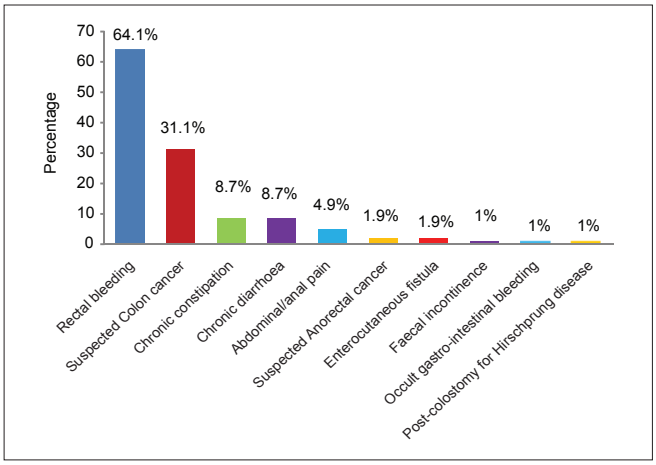


**Figure 2:** Indications for colonoscopy

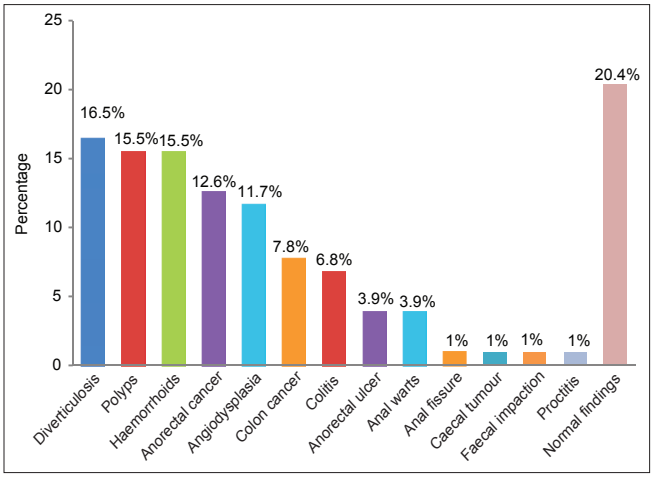


**Figure 3:** Endocopic findings

## DISCUSSION

The main aim of our study was to determine the indications, findings and diagnostic yield at colonoscopy in Nigerians. Our study has shown an overall diagnostic yield of 79.6% at

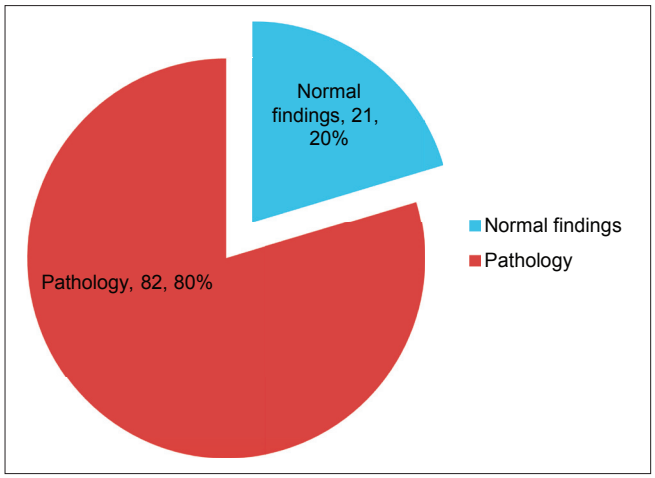


**Figure 4:** Diagnostic yield at colonoscopy

colonoscopy. This figure is similar to the 79.0% diagnostic yield found by Ismaila and Misauno in Jos, Nigeria.[7] Studies in the West African sub-region carried out by Mbengue *et al*.,[8] and Dakubo *et al*.,[9] in Senegal and Ghana, respectively, revealed a similarly high diagnostic yield. However, the high diagnostic yield in our study contrasts with the 48.0% obtained by Sahu *et al*.,[3] amongst their Indian patients and the 27.2% found by Siddique *et al*.,[10] Furthermore, it is higher than the 21.0% diagnostic yield obtained by Al-shamali *et al*.,[11] amongst the Saudis. The differences in the diagnostic yield may be due to varying sample sizes in the studies, the differences in the spectrum of colonic diseases seen in the different regions of the world, and the different selection criteria and indications for colonoscopy. Studies have shown that the highest diagnostic yield is found in patients having lower GI bleeding, mass lesions and polyps as demonstrated by Morini *et al*.,[12] Kassa,[13] Lee *et al*.,[14] and Rex[15] in their work. Rex, in his study amongst Americans, demonstrated that colonoscopy for bleeding indications such as positive faecal occult blood test, emergent or non-emergent rectal bleeding, melaena with a negative upper GI endoscopy and iron deficiency anaemia has a substantial yield for cancers.[15]

The availability and the cost of colonoscopy may also be a factor. The more expensive the cost of the procedure, the more stringent the selection criteria is.

From our study, the commonest indications for colonoscopy were rectal bleeding, suspected colorectal cancer and an unexplained change in bowel habit. These were also the indications for colonoscopy in the works carried out by Berkowitz and Kaplan,[1] Sahu *et al*.,[3] and Kassa[13] in their South African, Indian and Ethiopian patients, respectively.

The commonest pathologies seen at colonoscopy in our study were cancer of the colon and anorectal regions 20.4%, diverticulosis 16.5%, polyps, haemorrhoids 15.5% and angiodysplasia 11.7%. This spectrum of pathologies is similar to that found by Irabor[6] in Ibadan, Nigeria and Lee *et al*.,[14] in their Jamaican patients, whereas, Ismaila and Misauno[7] found haemorrhoids to be the commonest lesion. Ismaila and Misauno[7] also reported that polyps and colorectal cancers are rare. This rarity may be due to the small sample size of their study, and a selection bias which was acknowledged by them in their work.

The main cause of colonic diseases in our study contrasts with the findings of El-Batea *et al*.,[16] amongst Egyptians, that of Al-Nakib *et al*.,[17] amongst Kuwaitis and that of Al-Shamali *et al*.,[11] amongst Saudis who all found ulcerative colitis to be the most common pathology at colonoscopy. Furthermore, Sahu *et al*.,[3] found ulcerative colitis to be the most frequent pathology in Indians. The main reason for the differences in the spectrum of findings at colonoscopy may be due to racial differences, geographical variations, life style and environmental, behavioural and dietary factors. It has been established that inflammatory bowel disease is common in Europe, Scandinavia and the US but rare in the black populations of sub-Saharan Africa.[18-20] This may account for the rarity of ulcerative colitis in our study.

In conclusion, the diagnostic yield at colonoscopy was high. The commonest indication for colonoscopy was rectal bleeding, while the most frequent pathology seen was diverticulosis.

In view of the aforementioned benefits and the diagnostic yield from colonoscopy, the practice of colonoscopy deserves to be developed further in Nigeria.

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