ORIGINAL ARTICLE

COMPLIANCE TO COLONOSCOPY IN PATIENTS VISITING THE DEPARTMENT OF GASTROENTEROLOGY AT LADY READING HOSPITAL, PESHAWAR

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Background: Colorectal cancer is the largest cause of mortality in patients admitted to any Gastroenterology units. Diagnostic colonoscopy is a valuable tool for the disease's diagnosis and proper treatment but its compliance has been historically low. Our main objective was to find out social, cultural, and psychological barriers among those patients who finally did not show up for their colonoscopy appointment and, make a comparative analysis with those who did. **Methods:** A cross-sectional study was conducted in the Lady Reading Hospital, Peshawar from October 2021 to March 2022, selecting 224 patients through consecutive sampling. **Results:** Out of the 224 patients included, males (48.2%) were more likely to show up for the procedure than females (51.8%) (p<0.05). Overall, the most recurring barrier was a lack of knowledge with 116 (51.7%) for both the groups, but especially more for the non-compliant patients (p<0.05). Fear of results, fear of complications of the procedure, and affordability issues stood out as important differences between the compliant and non-compliant patients. **Conclusion:** For the country's healthcare to be able to overcome these problems, and enter an era where screening colonoscopy is a norm, mass education regarding the issue is imperative.

Keywords: Colonoscopy; Colorectal Cancer; Inflammatory Bowel Disease

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INTRODUCTION

Colorectal cancer (CRC) is the leading cause of mortality among patients admitted to any Gastroenterology units and has a high prevalence worldwide.[1,2] Diagnostic colonoscopy is an important and cost-effective tool for the diagnosis and oftentimes, proper treatment of such patients. Hence, colonoscopy has life-saving significance in clinical medicine.[2–4] However; non-compliance with the procedure is an important cause of high numbers of mortality. Sociocultural beliefs, fear, and other psychological variables play a major role in this.[5] Addressing these issues could not only reduce mortality but also improve the quality of life of people who would undergo the procedure.[6,7]

Colonoscopy has become a defining concern of the current gastroenterological practice in many Western nations.[8] This does not stand true for Pakistan which is among those countries in which the prevalence of colorectal cancer is growing.[9,10] The crude incidence rate is 3.2% but the number seems to be rising especially in the males. There is also a lack of proper registry of data of the cases leading to a deceptively under-reported number.[8] Even the guidelines recommended by The Asia Pacific for colorectal cancer have failed to take into account the Indian subcontinent, especially Pakistan.[11] Therefore, lack of awareness is only a part of the problem and the issue that has rarely been raised is the unique barriers to the colonoscopy procedure and its potential solutions.[9]

Financial concerns are a major factor when considering colonoscopy in Pakistan because it is a costly procedure. In addition, there is also a lack of gastroenterologists and endoscopy suites to cover the population of patients needing them. Furthermore, Pakistan, being a Muslim-Majority country with a lot of its population being conservative has to deal with some unique issues in this domain.[12] Widespread fear about the procedure, rumours about its dangers, fear of finding out that one has a malignant disease, and the reluctance of female patients to have colonoscopy exams done by male gastroenterologists while at the same time, lacking female gastroenterologists to satisfy the female patient population are some of the important suspected issues. These factors can indirectly impact the load on the healthcare system of a country because a failure of diagnosis and treatment at an early stage would increase mortality and add the extra burden of paying for highly expensive oncological treatment.[13] Understanding the social, financial, cultural, and psychological factors that

impact people's attitudes toward colonoscopy is the cornerstone for designing custom-tailored educational campaigns to encourage these groups for the procedure which could further improve compliance with the procedure.[8,14] Hence, our study aims to find out these barriers, and the results may be useful at policy levels in healthcare to give importance to context.

MATERIAL AND METHODS

This cross-sectional study was conducted at the Gastroenterology Department and Endoscopy Suite of Lady Reading Hospital, Peshawar, for 26 weeks from 09.10.2021 to 01.03.2022. Ethical approval was taken from the departmental IRB (Institutional review board) at Lady Reading Hospital, Peshawar. A total of 224 consecutive patients were included visiting during the aforementioned period. An interview was then conducted with the patients using an already-validated questionnaire from a previously published study was modified and used.[15] Terms of non-disclosure and informed consent of information were mentioned to all participants in the study.

RESULTS

Our study had a total 108 (48.2%) male participants, with the majority, being from rural areas 141 (62.9%). Demographics are given Table-1. Among the participants, a total of 151 (67.4%) were suffering from some chronic illness, i.e., hypertension, diabetes, thyroid disorders, etc. yet only 75 (33.5%) had a family history of gut problems e.g., Irritable bowel disease (IBDs) or CRC. (Table-2) Among the barriers encountered, a lack of knowledge about colonoscopy itself and its importance stood out as the most recurring theme with 69 patients strongly agreeing that colonoscopies were not important or needed. A similar result was also noted Table-3), where this factor stood out as a statistically significant (p<0.05) difference between those who had a colonoscopy and those who refused it. Fear of results, fear of complications of the procedure, affordability issues, and preference for alternative treatment options (e.g., *Hakeemi*) also stood out as important differences between the groups. In our study, males were more likely to show up for their colonoscopy appointment than females (p<0.05). This was also seen among those who had a family history of CRC or IBDs and patients who had the procedure done before. (Table-4)

Table-1: Demographics

Variable		N (%)
Gender	Male	108 (48.2%)
	Female	116 (51.8%)
Residence	Urban	83 (37.1%)
	Rural	141 (62.9%)
Age group	45–50	71 (31.7%)
	51–55	46 (20.5%)
	56–60	42 (18.8%)
	61–65	34 (15.2%)
	>65	31 (13.8%)
Educational Status	Illiterate	105 (46.9%)
	Primary	27 (12.1%)
	Intermediate	31 (13.8%)
	Graduate	38 (17%)
	Higher	23 (10.3%)
Socioeconomic status	Upper Class	20 (8.9%)
	Middle Class	128 (57.1%)
	Lower Class	76 (33.9%)
Employment Status	Employed	199 (88.8%)
	Unemployed	25 (11.2%)
Marital Status	Married	215 (96%)
	Single	7 (3.1%)
	Divorced or widowed	2 (0.9%)
History of a chronic illness	Yes	151 (67.4%)
	No	73 (32.6%)
Family history of CRC or IBDs	Yes	75 (33.5%)
	No	149 (66.5%)
Are you familiar with the procedure of Colonoscopy?	Yes	52 (23.2%)
	No	172 (76.8%)
Did you have this procedure previously done?	Yes	36 (16.1%)
	No	188 (83.9%)

Table-2: Patient responses to perceived barriers to colonoscopy

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The procedure is not needed/important (Lack of knowledge)	69	47	27	53	28
Lack of family and/or friends' support	72	39	22	54	37
Fear of results (diagnosis of malignancy or chronic disease)	45	37	17	58	67
Religious beliefs and/or fatalism	39	26	15	64	80
Lack of trust in healthcare providers	21	14	37	65	87
Lack of means for transportation	33	25	13	64	89
Fear of pain in the procedure	56	60	34	43	31
Fear of complications of the procedure	43	51	40	52	38
Embarrassment about having the procedure	26	33	21	67	77
Affordability and financial problems	35	37	20	73	59
Lack of time (busy)	28	54	15	64	63
Preference of Alternative/Hakeemi treatment	25	49	54	72	24
The performing physician's gender must be the same as mine	56	45	65	46	12
Disguist aversion	23	27	37	53	84
Discomfort of Bowel prep	12	32	46	58	76

Table-3: Compliant vs non-compliant patients

	Compliant (Group A)		Non-compliant (Group B)		*p*-value
	Mean	SD	Mean	SD	
The procedure is not needed/important (Lack of knowledge)	3.12	1.41	5.8	1.62	<0.05
Lack of family and/or friends' support	2.13	1.21	2.14	1.38	0.494
Fear of results (diagnosis of malignancy or chronic disease)	3.1	1.22	2.39	1.13	<0.05
Religious beliefs and/or fatalism	2.31	1.33	2.73	1.53	0.084
Lack of trust in healthcare providers	2.34	1.29	2.72	1.73	0.091
Lack of means for transportation	3.5	1.29	3.9	2.1	0.037
Fear of pain in the procedure	2.6	1.31	2.23	1.43	0.317
Fear of complications of the procedure	3.21	1.34	5.32	1.87	<0.05
Embarrassment about having the procedure	2.39	1.12	2.29	1.2	0.362
Affordability and financial problems	2.83	1.32	3.81	1.22	<0.05
Lack of time (busy)	2.71	1.37	2.49	1.46	0.84
Preference of Alternative/*Hakeemi* treatment	2.03	1.04	2.91	1.42	<0.05
The performing physician's gender must be the same as mine	3.44	1.63	4.01	1.41	0.068
Disgust aversion	3.87	1.42	3.53	1.64	0.069
Discomfort of Bowel prep	3.53	1.26	4.65	1.27	0.072

Table-4: Comparison of Compliant vs non-compliant

		Compliant	Non-compliant	*p*-value
Gender	Male	63	45	<0.05
	Female	49	67	
Residence	Urban	46	37	0.268
	Rural	66	75	
Educational Status	Illiterate	49	57	0.422
	Some formal schooling	63	55	
Employment Status	Employed	95	104	0.08
	Unemployed	17	8	
History of a chronic illness	Yes	78	73	0.569
	No	34	39	
Family history of CRC or IBDs	Yes	45	30	<0.05
	No	76	82	
Are you familiar with the procedure of Colonoscopy?	Yes	31	21	0.113
	No	79	93	
Did you have this procedure previously done?	Yes	24	12	<0.05
	No	88	100	

DISCUSSION

Various guidelines from several standards of treatments around the world especially the World Health Organization[17] and American Medical Association regard colonoscopy as the gold standard for screening of colorectal carcinoma[16,17] Not only that, but it is also the modality of choice for certain diseases and pathologies that would otherwise be not visible on conventional imaging such as ultrasonography, computed tomography scan, and magnetic resonance imaging.

There are various challenges faced to the implementation of colonoscopy globally as a standard screening tool especially in Pakistan due to multiple social, economic, and cultural barriers. Our study has highlighted some of these.

Our study demonstrated that 51.78% of the study population agreed or strongly agreed that colposcopy is not needed (mostly due to lack of knowledge), 12.05% had a neutral stance and 36.15% of the population did not agree with the fact that colonoscopy is not needed. A study done in Karachi, Pakistan showed a few similarities to our population group where 61.5% of patients agreed or strongly agreed of no need for colonoscopy due to lack of knowledge. Similarly, 23.2% of patients in their study had a neutral stance and 15.3% disagreed with the need for colonoscopy.[9] This can be attributed to a similarity in cultural beliefs in both study populations. In contrast to this, a study from Saudi Arabia demonstrated somewhat different findings where the study population had the following responses regarding colonoscopy not needed; 43.1% agreed, 7.8% neutral and 48.7% disagreed.[15]

Fear of a chronic diagnosis or a serious disease such as colorectal carcinoma also showed up in the analysis. A total of 36.6% of the study population agreed, 7% had a neutral stance and 55.8% disagreed. Compared to this a similar study[9] showed their population had 41.2% of those agreed with the statement, 24.3% were neutral and 34.5% disagree. The difference can be attributed to other several factors such as low knowledge about the outcome of a chronic or irreversible disease or morbidity and mortality associated with a cancer diagnosis. One other aspect that can be attributed to our study population is the embarrassment associated with such procedures due to cultural and societal norms. A total of 26.33% agreed, 9% had a neutral stance and 67.34% disagreed when asked about embarrassment being the reason for not getting a routine colonoscopy. In comparison, a study showed that 26.6% population agreed, 9.2% were neutral and 64.3% disagreed with the statement.[15] This study was in similarity to ours which shows despite being from different regions, people will

have the same stance about embarrassment associated with the procedure. Two of the most distinct responses and mindsets of our study population highlighted included patients' preference for alternative (*hakeemi)* treatment instead of the conventional medical treatment.

The second response to why colonoscopy would not be agreed to was response mostly by females who recorded that procedure must be performed by female physicians in their cases. In the first instance, the study subject's preference for alternative (*hakeemi)* treatment showed that 33.03% agreed, 24.1% had a neutral stance and 42.85% disagreed with the statement. Although compared to the percentage of the disagreed population, the population that agrees on choosing alternative treatment over conventional colonoscopy is still much higher. Apart from this, when asked about preference for same-gender physicians performing colonoscopy, 45.08% agreed, 29% were neutral and 25.89% disagreed. This shows that the majority of people wanted same-gender physicians to perform colonoscopies. It was most commonly noted among female patients who preferred a female gastroenterologist performing the procedure. The strengths of our study are that data collection tool used was a valid instrument already tested. Data was rigorously collected. The limitations include that it was dine in one centre that makes extrapolation to other populations difficult.

CONCLUSION

Although colonoscopy is a lifesaving procedure for screening life-threatening diseases like colorectal carcinoma, it still faces a few social and cultural hurdles. These hurdles are especially noticeable in our society of Pakistan, especially Khyber Pakhtunkhwa. While some of these factors might be related to distrust against healthcare workers in general most of these factors can be attributed to social, cultural, and religious norms. For our healthcare to be able to overcome these hurdles and enter an era where screening with colonoscopy is a normal reach for everyone, mass education about the issue is a must.

AUTHORS' CONTRIBUTION

TD: Concept and design, OH, OSK: Literature Search, ZAQ: Proofreading, DD, IU: Statistical analysis

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