

Does Patient Education and Recommendation Result in Increased Uptake of Colorectal Cancer Screening Using the Fecal Occult Blood Test?

Dear Editor,

Colorectal cancer (CRC) is the most common cancer in Singapore. Between 2008 and 2012, it accounts for 17.5% of cancer in males and 13.6% in females.¹ Fecal occult blood test (FOBT) is a useful screening tool in decreasing CRC mortality.² A study conducted in Hong Kong, found that physician's recommendation had led to increased FOBT uptake among patients [odds ratio (OR) of 23.5%].³

This research study aims to determine whether patient education and recommendation would result in increased uptake of FOBT in polyclinics.

Materials and Methods

A randomised controlled study was conducted on 48 patients in a polyclinic to look at the effectiveness of a 3-minute standardised education protocol conducted by physicians. It compared the screening rates between the control group and intervention group on the uptake of FOBT among patients.

Study participants were randomised into 2 groups with balanced randomisation (1:1), using block randomisation. A research assistant screened and recruited patients according to the inclusion criteria. Concealment was performed by another research assistant who independently assigned group allocation using the pre-generated random allocation sequence. Both groups received CRC and FOBT public education materials. The intervention group additionally received a 3-minute standardised education protocol conducted by the doctor. Majority of the study participants were seen for review of their chronic illnesses; a few of them were for orthopaedic related conditions and upper respiratory tract illnesses. None of them consulted for gastrointestinal-related symptoms.

After the education, the doctor recommended FOBT and ordered 2 samples of FOBT tests if the patient accepted the offer. The laboratory technician, who was blinded to the patient allocation, recorded the time the patient had collected the kits. For Singapore citizens and Permanent residents, they would pay \$6.50 per kit; non-Singaporeans would pay \$11.80 per kit.

Both groups were followed up for 6 months after recruitment to determine if a FOBT was performed at the polyclinic.

Adults aged 50 years and above, and were asymptomatic for CRC were included. Patients were excluded if they had received an FOBT within 1 year; received a flexible sigmoidoscopy or colonoscopy within 5 years; a personal or family history of CRC or polyps; or a personal history of inflammatory bowel disease. Application to the National Healthcare Group (NHG) Domain Specific Research Board for ethical approval was obtained. Informed consent was taken from patients and participation was voluntary.

The education protocol included information on what is CRC and FOBT, the importance of CRC screening, how it is done, and its recommended frequency.

To detect an increase of FOBT rate from 3%⁴ to 40%,⁵ the minimum total sample size required was 40, with statistical power of 80% and significance level of 5%. Factoring in an anticipated loss to follow-up rate of 20%, the total number of subjects needed to be recruited was 48, 24 per group.

Intention to treat analysis was used. Descriptive statistics was used to summarise the data. Fisher's exact test was used to compare the baseline characteristics of the participants. The relative risk of screening take-up between control and intervention groups was computed and corresponding 95% confidence interval (CI) was reported. All analyses were performed using SPSS®.

Results

Out of the 48 participants, there was no significant difference in age and gender between the groups. Among the participants, 52.1% of them were aged between 50 and 60 years. The female to male ratio was 1:1.

In the intervention group, 14 out of 24 participants (58.3%) accepted the offer to take-up FOBT, 11 participants had the FOBT completed within 6 months (78.6%). Among the 10 participants who did not accept the offer, 1 had FOBT completed within 6 months (10%).

During the 6-month follow-up, as seen from Table 1, there was a total of 12 participants from the intervention group who completed the FOBT (50%). However, no participants from the control group completed the FOBT (0.0%). The rate of participants not undergoing a FOBT in the control group was twice as high as that of participants in the intervention group (RR = 2.0, 95% CI, 1.34 to 2.98)

Table 1. Return for FOBT Uptake and Participants' Characteristics

	Undergo FOBT		Did not undergo FOBT		RR of not undergoing FOBT	(95% CI)	P value
	Count	(%)	Count	(%)			
Group							<0.001
Control	0	(0.0%)	24	(100.0%)	2.00	(1.34 – 2.98)	
Intervention	12	(50.0%)	12	(50.0%)	1.00	(reference)	
Gender							1.000
Male	4	(16.7%)	20	(83.3%)	1.25	(0.89 – 1.75)	
Female	8	(33.3%)	16	(66.7%)	1.00	(reference)	
Age (years)							0.461
50 – 60	6	(24.0%)	19	(76.0%)	1.03	(0.74 – 1.43)	
>60	6	(26.1%)	17	(73.9%)	1.00	(reference)	

FOBT: Fecal occult blood test; RR: Relative risk

(Table 1). The rate of males not undergoing a FOBT was 1.25 times as high as that of females (RR = 1.25, 95% CI, 0.89 to 1.75). However, this association was not statistically significant. There was no significant association between the age and the FOBT take-up rate as well ($P = 0.868$).

Discussion

Data from this study suggest that patients were willing to return and take up FOBT with the education and recommendation provided by physicians.

Limitations

The study duration was short and the possibility of selection biases needs to be excluded. The sample size of this study was rather small and this would also limit the generalisability of the results.

Conclusion

This study reinforces the role of primary care physicians in advocating and encouraging patients to take up FOBT in colorectal cancer screening.

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