Investigating the Effect of Short-Term Educational Program on Readiness of Patient's Candidate for Endoscopy

Arsalan Rostami[1], Ali Khorshidi[2], Ghobad Abangah[3], Mosayeb Mozafari[4]

[1]Student Department of Nursing, School of Nursing and Midwifery, Ilam University of Medical Sciences, Ilam, Iran, [2]Department of Epidemiology,School of Medicine, Ilam University of Medical sciences, Ilam, Iran, [3]Associate Professor of gastroenterology and hepatology, Department of internal medicine, school, Medicine shahid mostafakhomaeini hospital, Ilam university of medical sciences, Ilam, Iran, [4]Associate Professor, Department of Nursing, School of Nursing and Midwifery, Ilam University of Medical Sciences

Abstract

Background: Gastrointestinal endoscopy is one of the main diagnostic tools for gastrointestinal examination. In this study, we measured the effect pre- procedure education on the readiness of patients for the endoscopy.

Method: This quasi-experimental study was performed on 70 patients aged 35-60 years who were candidates for endoscopy from SEP 2018 to MAY 2019. Data were collected by a valid and reliable, 22 items' questionnaire that developed by the researcher. Data were analyzed by SPSS, version 16.

Results: mean score of readiness for endoscopy in the intervention group 105.8 (5.3) was significantly higher than control group 62.6 (7.8), ($p<0.001$). Also, the level of readiness of the intervention group was 11.4% good and 88.6% very good. The level of readiness of the control group was 91.4% moderate and 8.6% good.

Conclusions: Considering the effect of pre- procedure education on the readiness of patients for the endoscopy, it can be inferred that providing educational programs before endoscopy can be helpful.

Keywords*: readiness, endoscopy, anxiety*

Introduction

Gastrointestinal endoscopy is one of the main diagnostic tools for gastrointestinal examination. This diagnostic method, which is frequently used in clinical settings, has obvious diagnostic benefits and therapeutic applications [(1)]. Patients who are candidates for endoscopy should receive the necessary information about readiness for endoscopy accurately and simply because of the need for complete gastrointestinal clearance for proper physician visibility and non-repetition of endoscopy. On the other hand, the findings of a study examining pre-procedure anxiety showed that the level of anxiety was severe in 14% of patients and moderate in 74% [(2)]. Anxiety reduces patients' health[(3)]. Anxiety is especially important in gastrointestinal patients[(4)]. Therefore, the role of patients' physical and mental readiness is crucial to achieve the expected outcome of endoscopy in terms of correct and timely diagnosis and treatment, with minimal damage to and side effects on the patient [(5, 6)]. Readiness is the quality or status of preparation for the procedure [(7)].

Readiness for endoscopy increases the likelihood of successful endoscopy and prevention of repeating endoscopy as well as early diagnosis of the disease [(8)]. Research on medical complaints has shown that the most common form of neglect has been reported due to the patient's lack of readiness for interventions [(9)]. it can be expected that if patients candidate for endoscopy receive empathetic information, they will cooperate better, accept the process consciously, and endure the pain and possible side effects more easily [(6, 10, 11)]. In this study, we measured the effect pre- procedure education on the

Corresponding Author:
Mosayeb Mozafari,
Associate Professor, Department of Nursing, School of Nursing and Midwifery, Ilam University of Medical Sciences. E mail: mozafari-m@medilam.ac.ir

readiness of patients for the endoscopy.

Material and Method

The sample was randomly selected from the population of endoscopy candidates who admitted in shaeed Mostafa hospital, and assigned to control and intervention group. Each group consist 35 volunteer patients. Inclusion criteria were age between 35-60 years, full consent to participate in research, having acceptable literacy to write and read, no previous history of endoscopy, no known mental illness and anxiety disorders, no emergency conditions for endoscopy, no history of drug and alcohol use, lack of effective visual and hearing impairment, and exclusion criteria were emergency conditions such as hemorrhage and rupture during endoscopy, as well as patients' unwillingness to participate in the study.

The instrument used in this study was the endoscopy readiness questionnaire. The first part of the questionnaire included demographic information including age, gender, job, education, income, marital status, and the second part was the endoscopy readiness questionnaire was developed that assesses patients' readiness in the areas of information provision, mastery of endoscopy team, anxiolysis (de-stressing), up close experience, and training during endoscopy. To assess content validity of instrument using the Waltz & Bausell method [(12)], the primary 27 items questionnaire were evaluated by 10 experts including internist and experienced nurses in terms of relevance, clarity, and simplicity. According to experts' comments, the three lowest-scored items were deleted, and several of them were combined and modified and finally a 22-items questionnaire was prepared (table 1). Last item of the questionnaire did the open-ended question that asked the patient viewpoint for likelihood of re-select the center for doing later endoscopies. Based on a Likert scale, each item scored in a range from 1. (Strongly disagree to 5. Strongly agree) total score ranged from 21 as lowest to 105 as highest readiness.

To determine the reliability of the questionnaire, a test- retest method was used. The questionnaire was administered to 10 candidate patients for endoscopy who were not included in the intervention or control group, and two weeks later the same subjects completed the questionnaire again. The test-retest correlation coefficient ($r = 0.97$, 0.001) indicated the reliability of the instrument. Indeed, a value of 0.949 was obtained for Cronbach's alpha which was an acceptable score to confirm the internal consistency of the questionnaire. Following approval from the Ethics Committee of Ilam University of Medical Sciences, the researcher selected the sample from the list of patients admitted for performing endoscopy in following days based on availability sampling and after matching them with inclusion criteria, and obtaining informative consent, all participant allocated to intervention and control group randomly. This process was continued until fulfilling the sample. In each week, maximum selected participants were 3-4 people. Then, the researcher visited each patient on 2nd days before procedure. In this session, researcher rechecked that they met the entry requirements and presented a complete explanation of the research process. Also, in a quiet environment and a time of ten to 15 min, using a laptop, researcher provided the intervention group with an educational CD and pamphlet containing how to perform the procedure, preparations for procedures, possible complications during and after the procedure, and benefits of doing a procedure. In the control group, no intervention was performed and only routine measures were conducted. After doing the endoscopy, both groups completed the questionnaire. After completing the questionnaire, the information provided to the intervention group was given to the control group as well and educational pamphlets were given to the wards.

Data were analyzed using SPSS, version 16. Mean and standard deviation were used for descriptive statistics, and chi-square and t-test were used for inferential statistics.

Findings

Kolmogorov-Smirnov test and showed that the two groups were homogeneous in terms of demographic characteristics and there were not significant differences. The frequency of respondents to each item of the questionnaire is listed in Table 2. the mean scores of endoscopy readiness after for intervention group (90.8±5.3) was more than control group (50.6±7.8) significantly ($p < 0.001$) (Table 3).In terms of comparing the levels of readiness, there was a statistically significant difference between the two groups (Table 3). Regression analysis showed that in the intervention group, 11.4% of participants had high level of readiness and 88.6% had very high level of readiness. In the control group, 91.4% of participants had moderate level of readiness and 8.6% had high level of readiness. Also, in response to the open-ended question, 81% of the patients in the

intervention group stated that they would choose the same center for future referral, compared to 38% in the control group.

Table 1. Distribution of demographic characteristics by study groups

variable		Intervention group	Control group	Z score	p- value
		No (%)	No (%)		
Gender	Man	22(62.9)	19(54.3)	0.384	>0.05
	Woman	13(37.1)	16(45.7)		
Job	Employed (employee, self-employment)	24(68.6)	22(62.9)	0.420	>0.05
	Unemployed (unemployed, disabled, retired)	11(31.4)	13(37.1)		
Education	Degrees under diploma and diploma	6(17.1)	14(40)	0.387	>0.05
	Associate degree and above	29(82.9)	21(60)		
Income	Up to one 200$ monthly	29(82.9)	14(40)	0.449	>0.05
	Over 200$ monthly	6(17.2)	21(60)		
Marital status	Married	30(85.7)	28(80)	0.503	>0.05
	Single and dead spouse	5(14.3)	7(20)		
Mean and standard deviation of age (years)		50/49(±7/17)		0.121	>0.05

Table 2: Mean endoscopy readiness score in two groups

Group	Number	Mean (SD)	Mean difference	95% confidence interval for mean difference	t	p
Intervention	35	90.8(5.3)	42.2	46.3-39.9	26.95	<0/001
Control	35	48.6(7.8)				

Table 3: Readiness levels of intervention and control groups

Variable Number		Intervention		Control		p
		Percentage	Number	Percentage		
Readiness for endoscopy	Moderate	0	0	32	91.4	0/001
	High	4	11.4	3	8.6	
	Very high	31	88.6	0	0	

Discussion

According to the results of the study, the post intervention mean score of readiness of the patients in the intervention group was significantly higher than the control group, which indicates the effectiveness of education. findings of Beitzer study [10], which aimed to investigate the effect of film education on the level of satisfaction and anxiety of patients undergoing colonoscopy, showed that education leads to more tolerance and patient satisfaction, which is in line with the results of the current study. Patients who are candidates for endoscopy should receive the necessary information about readiness for endoscopy accurately and simply because of the need for complete gastrointestinal clearance for proper physician visibility and non-repetition of endoscopy. Failure to receive this information increases patients' anxiety [13]. In a study by Onal et al. in Turkey, it was confirmed that a lack of awareness of the treatment process was a source of increased anxiety among patients and subsequently an increase in the need for sedative medications [14]. In this vein, the results of a qualitative study conducted by Azami et al. (2016) to examine the expectations and experiences of patients with angioplasty suggest that lack of knowledge about the procedure and its side effects has been one of the main themes, and this defect in patient education was caused mainly by the care team [13]. pehlivan et al. [6], reported that the benefits of providing information to candidate for anxious therapies such as endoscopy are increasing patients understanding and facilitating patients' coping with endoscopy which have been shown to achieve more successful outcomes.

Moyo et al. stated that the main causes of dissatisfaction and failure to reach therapeutic goals are lack of information about the disease process and interventions performed by the care team, lack of attention to the patient's and family's ambiguities, and failure to provide meaningful explanations to the patient [15]. pre-endoscopic education can cause success in therapeutic interventions, increase satisfaction, reduce nurses' workload as well as reduce the cost for patients because of the prevention of endoscopy repetition due to the failure of the physician to obtain proper vision, and accelerate patients' recovery. The results of some studies confirming this finding indicated the effects of different methods such as patient preparation [11], providing clear information and social support [16], providing cognitive and behavioral information [17], nursing counseling [18], using Quran phonics [19] and informing patients before endoscopy [9] on the success of therapeutic procedures such as endoscopy.

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