

THE ROLE OF PRIMARY CARE PHYSICIANS AND NURSES IN CONVINCING PATIENTS TO PARTICIPATE IN A COLORECTAL CANCER SCREENING PROGRAM IN A POLISH COORDINATED CARE ORGANIZATION: A QUESTIONNAIRE-BASED STUDY

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A – study design, **B** – data collection, **C** – statistical analysis, **D** – interpretation of data, **E** – manuscript preparation, **F** – literature review, **G** – sourcing of funding

ABSTRACT

Background: Medical assistants/care coordinators play a crucial role in the coordinated care system. The tasks of nurses and some qualified supporting staff have been extended to include this role along with the implementation of the pilot program *POZ Plus* in Polish primary healthcare. A personalized approach to the patient is especially important during the implementation of large-scale prevention programs.

Aim of the study: To assess who has the greatest influence on the patient's decision to undergo screening colonoscopy and outline the current and potential roles of nurses in this process.

Material and methods: This questionnaire-based study was conducted at the coordinated care facility Medical and Diagnostic Center (CMD) in Siedlce, Poland between March 1st and June 15th, 2017.

Results: 138 patients participated in the study. The majority (75; 54.4%) reported they were directly convinced to undergo colonoscopy by a primary care physician. 18 (13.0%) were convinced by a nurse, and 22 (15.9%) by another specialist. The remaining (23; 16.7%) patients indicated other factors. The majority of patients (74; 53.6%) responded saying that all necessary information about the entire test course was provided by the nurse, while 35 (25.4%) shared that this information had come from the primary care physician, 8 (5.80%) from the specialist doctor, 3 (2.17%) from the receptionist and 18 (13.0%) from other sources of information, such as the Internet, leaflets and notice boards.

Conclusions: We found that primary care physicians at this institution have an important role in convincing patients to undergo preventive colonoscopy, while nurses provide key information to patients on the preparation and the course of this procedure. Although the current model seems to be effective in a coordinated care setting, there may be still a place for nurse care coordinators to take on some tasks previously performed by doctors.

KEYWORDS: patient-centered care, medical staff, colorectal neoplasms, tasks

BACKGROUND

Integrated care is a concept combining input resources, service delivery processes, management and organization health services for the purpose of health promotion, disease prevention, diagnostics, therapy and rehabilitation. Primary healthcare has a fundamental role in society, according to the prevailing opinions of experts and scientists. It is essential for the integration of care due to its “gate-keeper” function and involves the coordination of primary care physicians and their healthcare teams in local communities. Nurses as care coordinators play a crucial role in the integrated care system. Over the past few years, nurses’ responsibilities have increased significantly. Nurses are authorized to perform a wide range of activities in Poland, including tasks previously performed by doctors. This is especially important for the patient-centered approach during the implementation of large prevention programs [1–3].

Colorectal cancer (CRC) is the second leading cause of cancer death in Poland and Europe [4,5]. According to Poland’s National Cancer Registry, in 2010 there were 15,800 cases and almost 11,000 deaths due to CRC. CRC is therefore an important health problem across Europe [5].

Most CRCs develop from nonmalignant precursor lesions called adenomas over a long period of time. This slow development provides an opportunity for screening tests, which may result in detection of CRC at an early stage and the initiation of treatment even before symptoms occur. Early treatment of invasive lesions is both more effective than in more advanced stages and most likely less detrimental for the patient’s quality of life [4,6].

Implementation of CRC screening programmes is recommended in both EU Member States and the US to lower the population’s cancer burden [6,7]. In Poland as part of the Colon Cancer Screening Program implemented by the Ministry of Health, free preventive colonoscopies are performed [8].

Patients take part in the programme in one of two ways, either they directly contact the doctor, or they are invited by the doctor to participate. 1) In the non-invitation method, also known as “opportunistic”, the patient applies directly to any doctor or applies by filling out the questionnaire himself. These patients fall into three categories: 50–65 years of age, with or without family history, and have not had a colonoscopy in the prior ten years; 40–49 years, who have had a first degree relative diagnosed with colon cancer; 25–49 years, from families with hereditary colorectal cancer

but not HNPCC (Hereditary Non-Polyposis Colorectal Cancer). In cases of suspected HNPCC, it is necessary to refer the patient to the genetics clinic and if confirmed, have colonoscopies performed every 2–3 years. Exceptions are patients in which genetic mutations are not found. A person may be dismissed from performing control colonoscopy. 2) The invitation method involves personal invitations to people aged 55–64 to participate in the study. Invitation to a preventive colonoscopy is active until the age of 64 by the invitee [9].

AIM OF THE STUDY

The main purpose of the study was to assess the influence of healthcare professionals on patients’ decisions to perform screening colonoscopy. Additionally, we wanted to outline the current and potential roles of nurses in this process.

MATERIAL AND METHODS

Study design and setting

The study was carried out in two endoscopy laboratories at the Medical and Diagnostic Centre, Siedlce, Poland between March 1st and June 15th, 2017 on patients undergoing a colonoscopy screening.

Participants and study size

Patients received a questionnaire after the examination and were instructed on how to fill it out. For the research purposes, 150 questionnaires were prepared, 145 were returned, of which 138 were filled out correctly and were statistically analyzed.

Variables

The following questions were asked: 1) Who directly convinced the patient to undergo colonoscopy? 2) How many attempts were needed to persuade the patient to undergo a colonoscopy? 3) What were the sources of information about colonoscopy and its benefits? 4) What were the patients’ concerns before undergoing colonoscopy? 5) What were the main factors for making the final decision to do colonoscopy? 6) What was the main source of information about the preparation and the course of colonoscopy?

Statistical methods

Chi-squared test for given probabilities was used. The hypothesis tested was whether the population probabilities are all equal. R v3.5.3 (for Mac OS X 10.13.6)

statistical software was used for all analyses. The significance level was set at 0.05.

Ethical issues

Participation in the research was voluntary and anonymous. Patients received Patient Information and Informed Consent Forms. The study did not need Ethics Committee approval. However the procedures were in accordance with the Declaration of Helsinki.

RESULTS

Participants

138 patients responded to the questionnaire's queries after the colonoscopy procedure, of whom 80 (58.0%) were women and 58 (42.0%) men. The patients' age ranges were as follows: 29 (21.0%) aged 40–50; 77 (55.8%) aged 51–60 years; 32 (23.2%) aged 61–65. Most patients lived in the cities (83; 60.1%) and had at least a secondary education (62; 44.9%) (tab. 1).

Main results

The largest group of patients reported they were directly convinced to undergo colonoscopy by a primary care physician—75 (54.4%). 18 (13.0%) patients were persuaded by a nurse, 22 (15.9%) by a specialist such as a gastroenterologist, gynecologist, or cardiologist and 10 (7.25%) by a family member. 10 (7.25%) patients volunteered for colonoscopy, and 3 (2.17%) indicated other reasons for participating in the screening program (tab. 2).

Most patients (114; 82.6%) needed only one encouragement/invitation for the colonoscopy and only 4 patients (2.89%) needed three or more invitations (tab. 3).

Additional comparison of data concerning patients who were convinced to undergo colonoscopy by primary care staff and patients persuaded/invited for the colonoscopy only once was performed. 74 of 93 patients directly convinced to undergo colonoscopy by the primary care staff needed only one persuasion/invitation for the colonoscopy. In this group, 61 patients were persuaded/invited by a primary care physician and 13 by a nurse.

Patients shared that the primary source of knowledge about the benefits of a colonoscopy were their primary care physician—72 (52.2%), nurse—26 (18.8%), informative materials (leaflets) in outpatient clinics—22 (15.9%), the media—15 (10.9%), midwife—1 (0.72%) and other sources—2 (1.45%) (tab. 4).

The biggest colonoscopy test-associated fear was the possibility of pain, as indicated by 71 (51.5%) patients. 36 (26.1%) and 11 (7.97%) responders were most afraid of the results and of the intimacy of the procedure, respectively. 3 (2.17%) patients had other fears including insufficient knowledge and fear of the unknown. Only 17 (12.3%) patients did not have any concerns (Table 5).

The most important impact factor in making the final decision to undergo the colonoscopy was: health concern, CRC in immediate family members, pressure

Table 1. Characteristics of responders

General characteristics of responders		
No. of responders	No./% of women	No./% of men
138	80 / 58.0%	58 / 42.0%
Age of responders (No. / %)		
40–50 years	51–60 years	61–65 years
29 / 21.0%	77 / 55.8%	32 / 23.2%
Location of home (No. / %)		
City		Rural area
83 / 60.1%		55 / 39.9%
Education (No. / %)		
Higher education	Secondary education	Primary/vocational education
40 / 29.0%	62 / 44.9%	36 / 26.1%

Table 2. Persons who directly convinced the patient to undergo colonoscopy

Who directly convinced the patient to undergo colonoscopy?	No. of participants	% of participants
Primary care physician doctor	75	54.40%
Specialist doctor	22	15.90%
Nurse	18	13.00%
Family member	10	7.25%
Volunteered herself/himself	10	7.25%
Other	3	2.17%

Chi-squared test for given probabilities: Chi-squared = 150.78, df = 5, $p < 0.001$

Table 3. Number of invitations to persuade the patient to undergo a colonoscopy

No. of invitations	No. of responders	% of responders
Only one	114	82.60%
Two	20	14.50%
Three or more	4	2.89%

Chi-squared test for given probabilities: Chi-squared = 153.57, df = 2, $p < 0.001$

Table 4. Sources of information about colonoscopy and its benefits

Source of information about benefits of colonoscopy	No. of responders	% of responders
Primary care physician	72	52.20%
Nurse	26	18.80%
Informative leaflets	22	15.90%
Media	15	10.90%
Midwife	1	0.72%
Other sources	2	1.45%

Chi-squared test for given probabilities: Chi-squared = 147.83, df = 5, $p < 0.001$

from a close relative, and were seen in 106 (76.8%), 18 (13.0%), 11 (7.97%) and 3 (2.17%) patients, respectively (tab. 6).

The majority of patients—74 (53.6%) shared that the nurse provided all necessary information about the preparation and test course. 35 (25.4%) shared that it had been the primary care physician, 9 (6.52%) obtained information from the Internet, 8 (5.80%) from a specialist doctor, 3 (2.17%) from the receptionist and 9 (6.52%) from another source, including leaflets and notice boards. 137 patients (99.3%) answered that they received comprehensive information (tab. 7).

Table 5. Patients' concerns before undergoing colonoscopy

Patients' concerns before undergoing colonoscopy	No of responders	% of responders
Possibility of pain	71	51.50%
Positive test results/ bad diagnosis	36	26.10%
Lack of intimacy during procedure	11	7.97%
Insufficient knowledge/ fear of unknown	3	2.17%
No concerns at all	17	12.3%

Chi-squared test for given probabilities: Chi-squared = 106.78, df = 4, $p < 0.001$

Table 6. Main factors for making the final decision to do colonoscopy

Main factors for making final decision to do colonoscopy	No. of responders	% of responders
Concern for health	106	76.80%
CRC in close family	18	13.00%
Pressure of close relative	11	7.97%
Other	3	2.17%

Chi-squared test for given probabilities: Chi-squared = 200.84, df = 3, $p < 0.001$

Table 7. Source of information about the preparation and the course of colonoscopy

Source of information about the preparation and the course of the test	No of responders	% of responders
Nurse	74	53.60%
Primary care physician	35	25.40%
Internet	9	6.52%
A specialist doctor	8	5.80%
Medical receptionist	3	2.17%
Other (leaflets, notice boards)	9	6.52%

Chi-squared test for given probabilities: Chi-squared = 163.57, df = 5, $p < 0.001$

DISCUSSION

Key results

Social competence of healthcare professionals is very important and affects quality of care and satisfaction of patients being provided with health services. Physicians' social competencies especially impact adherence to recommendations [10–13]. Although the tremendous role of primary care physicians in convincing patients to undergo colonoscopy screening was evident, nurses had a remarkable impact on successful persuasion of the necessity of screening colonoscopy. 13.0% of patients were convinced to undergo colonoscopy by a nurse and 18.8% patients received colonoscopy information from one. Nurses were also the main source of knowledge about the preparation and the course of the colonoscopy for 53.6% of patients (tab. 2, 4, 7).

In this survey, fear of pain was the biggest concern of patients (51.5%). Patients were also afraid of receiving worrisome results and the intimacy of the procedure, 36 (26.1%) and 11 (7.97%) respectively. It is worth emphasizing that 137 patients (99.3%) felt that they had received comprehensive information preparing them for the study and its course and only one patient was unsatisfied (tab. 4).

Interpretation

The main triple assumptions (Triple Aim) of coordinated care are to help healthcare systems deliver population health improvements, improve the quality of individual care and reduce patient costs. Crucial to the effective implementation of the integrated care model is the appropriate assignment of tasks to the staff. Medical assistants/care coordinators play a crucial role in the coordinated care system [1–3]. The roles of nurses and some qualified supporting staff have been extended to include the implementation of the pilot program *POZ Plus* in Polish primary healthcare [14]. Nurses are authorized to perform a wide range of new activities. This role is especially important in personalized medicine, so necessary for the implementation of large-scale prevention programs in the coordinated care setting [15].

Generalisability

The authors suggest that teamwork between primary care physicians and nurses is highly effective for preventive programs. Although the current model seems to be effective in a coordinated care setting, there may also be additional areas and roles that nurse care coordinators can participate to improve healthcare. Organizational changes implementing new task division structures assigning new roles, work time and tools to nurses could lead to a significantly increased number of patients participating in prophylactic programs. It may also improve patients' perceptions of the role of nurses from that of a passive (slightly dominant at pre-

sent in Poland) to an active one in delivering health-care. Lastly, it will permit doctors spending more time with patients with more severe or chronic illnesses.

CONCLUSIONS

Currently primary care physicians have the primary role of convincing patients to undergo preven-

tive colonoscopy whereas nurses play an important role in providing patients with information about the preparation and course of their colonoscopies. These two medical professionals, working together, have the greatest impact on patients' decisions to undergo CRC screening, the doctor by emphasizing the need and the nurse by addressing the patients' concerns.

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