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Relationship between Knowledge and Attitude with Treatment Delay in Stadium IV Colorectal Cancer Patients

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ABSTRACT

Introduction: Colorectal cancer is the fourth most common cancer in the world. Stage IV colorectal cancer are often late for treatment and have poor prognosis. Knowledge and attitude factors are known to play a role in treatment delay. Therefore, this study aims to determine the relationship between knowledge and attitudes on treatment delay of stage IV colorectal cancer patients at Saiful Anwar Hospital, Malang (RSSA).

Material and Methods: The research design was a cause-effect retrospective study conducted at RSSA from June 2021 to December 2021. Measurement of patient knowledge and attitudes using questionnaires while patient delays in seeking treatment are obtained from medical records. Statistical analysis using structural equation modelling (SEM) using the WarpPLS application with a significance level of $p<0.05$.

Results: The result of this research indicated that the knowledge of symptoms is associated with the patient's anxiety attitude ($p<0.01$; $r=-0.31$) and attitude to screening ($p=0.03$; $r=0.21$). Knowledge of a healthy lifestyle was associated with attitudes to screening ($p<0.01$; $r=0.27$). Screening attitude was associated with treatment delay in colorectal cancer patients ($p<0.01$; $r=-0.42$).

Conclusion: The conclusion is the knowledge and attitudes of patients about colorectal cancer are associated with the treatment delay. Increasing knowledge and attitudes of patients can reduce the treatment delay on stage IV colorectal cancer patients to come to RSSA.

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INTRODUCTION

Cancer remains a global health issue, including Indonesia. Based on WHO data, cancer is the second leading cause of death in the world, and estimated 9.6 million cases of cancer deaths in 2018. Countries with low- and middle-income accounts for over 70% of cancer mortality worldwide. Over 70% of cancer deaths globally occur in countries with low- and middle-income population. [1]. Cancer is the seventh leading cause of death in Indonesia (1.8% of deaths), after stroke, tuberculosis, hypertension, injury, perinatal, and diabetes mellitus [2].

Colorectal cancer is the third leading cause of death wordlwide, after lung and cervical cancer. According to data from 2018, there were 10,904 cases of colorectal cancer in women and 19,113 cases in men in Indonesia. The incidence of colorectal cancer (CRC) was in the third position in Indonesia after breast, cervical, and lung cancer [3].

According to data previously obtained at the Dr. Saiful Anwar (RSSA) General Hospital, there were 66 colorectal cancer patients in 2015, 60 patients in 2016, and 135 patients in 2017, representing a 31% annual rise in colorectal cancer cases. 43 from 135 patients were not resected in 2017 while 92 patients underwent resection surgery.

The 5-year survival rate of patients with early-stage CRC reaches 90%, but in the advanced stage, only 14%. The earlier the therapy is carried out, the higher the success rate [4]. Fear has been shown to have an impact on patient treatment delay. In a qualitative study by

Smith *et al*. (2012), fear of cancer and shame were identified as key factors contributing to delays in patients seeking treatment from health practitioners [5]. Anxiety in recognizing cancer symptoms has also been shown to result in patient delays in seeking treatment. Feel guilty, and fear of medical judgment are considered two psychological factors that may explain the delay in treatment in patients [6].

Previous research at the RSSA has not researched the delay factor in colorectal cancer patients for treatment. Therefore, it is interesting and important to research the relationship between knowledge and attitude to treatment delay in stage IV colorectal cancer patients who come to RSSA in 2021.

MATERIAL AND METHODS

Design

This study was designed using a cause-effect retrospective study. The cause is knowledge and attitude, while the effect is a delay in colorectal cancer patients. This study investigated the relationship between knowledge and attitudes with delay in colorectal carcinoma patients who came to the General Hospital of Dr. Saiful Anwar (RSSA) in 2021. This research was conducted at the RSSA and carried out from June 2021 to December 2021.

Sample and Sampling Method

The sample used in this study was stage IV colorectal cancer who came to General Hospital Dr. Saiful Anwar Malang. The sampling technique in this study used a consecutive sampling of all patients from June to December 2021. The inclusion criteria in this study were patients with advanced colorectal cancer who came to Dr. Saiful Anwar Malang. The exclusion criteria were hemodynamically unstable patients.

Research Instrument

In this study, the instrument used was a questionnaire of knowledge about the symptoms of colorectal cancer and a healthy lifestyle, anxiety attitude questionnaire and colorectal cancer screening.

Data Analysis

The data that has been collected is edited, entered, and then analyzed. The validity of the analysis design in this study used a convergent validity test. An indicator is declared valid if the factor loading is valuable and significant with a P value <0.05. Only indicators with a P value <0.05 were used in this study. The reliability test used for this research is composite reliability. The test criteria state that if the Composite Reliability value is greater than 0.7, then the questionnaire is declared reliable. In addition, also using Cronbach's alpha, if the alpha is greater than 0.6, the questionnaire is declared reliable.

The reliability testing results in this study obtained composite reliability values > 0.7 and Cronbach's alpha > 0.6. Thus, the questionnaire was considered to be reliable. Calculation of the correlation coefficient is done to determine the strength of the influence of a variable. Multivariate analysis was conducted to simultaneously find the significance of various independent variables on the dependent variable. The hypothesis of the relationship between attitude and lifestyle with delay in colorectal cancer patients was tested using structural equation modeling (SEM) analysis. This is because the variables analyzed are latent variables, and the relationship between variables is a structural model. Data analysis was performed using SEM with the WarpPLS approach, where the calculation process is carried out with the WarpPLS Data analysis with 95% confidence degree and α=0.05.

RESULTS

The characteristic of respondents presented in Table 1:

Table 1. Respondents Characteristic

Respondent Characteristic	n	%
Sex		
Male	35	50
Female	35	50
Age (year)		
<39	8	11,43
40-49	21	30
50-65	40	57,14
>65	1	1,43
Marital Status		
Married	66	94,29
Widowed	4	5,71
Employment		
Working	28	40
Not Working	42	60
Education		
Elementary School	21	30
Junior High School	25	35,71
Senior High School	20	28,57
Bachelors	3	4,29
No education	1	1,43

Based on Table 1, the characteristics of the respondents (patients) display poor demographics. Majority of the subjects were in advanced age (50-65 years old), lack of employement, and junior high school education background.

The SEM Analysis for this study shows in Fig. 1. Based on Fig. 1 and Table 2, shown the direct influence of knowledge about the symptoms of colorectal cancer

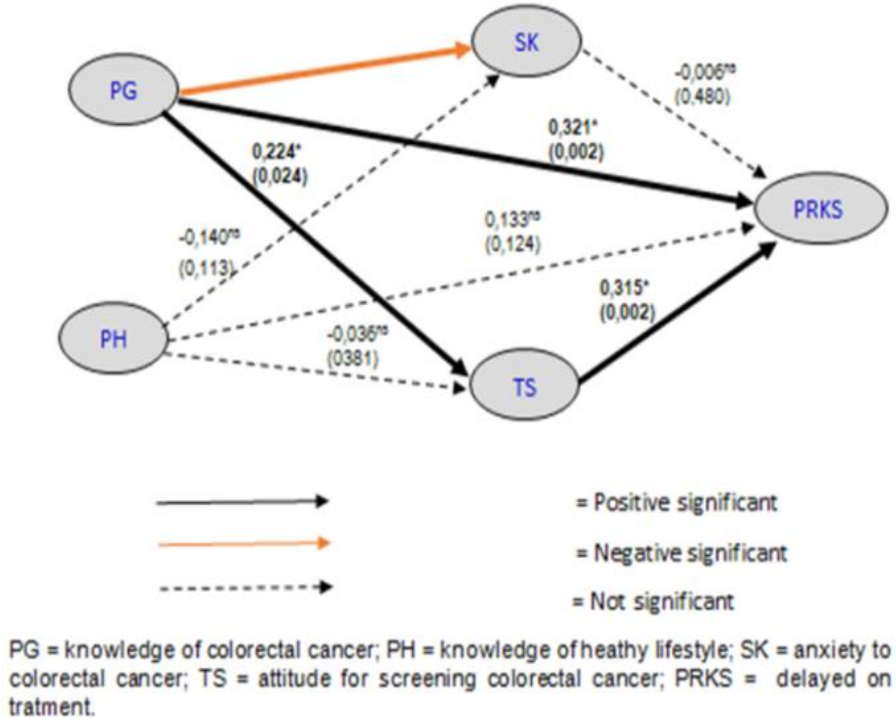


Fig. 1. SEM Analysis

Table 2. Relationship between Variables

No	Intervariable relationship		Pathway coefficient	*p-value*
	Predictor	Dependent		
1	PG	SK	-0,202	0,038
2	PG	TS	0,224	0,024
3	PG	PRKS	0,321	0,002
4	PH	SK	-0,140	0,113
5	PH	TS	-0,036	0,381
6	PH	PRKS	0,133	0,124
7	SK	PRKS	-0,006	0,480
8	TS	PRKS	0,315	0,002

PG = knowledge of colorectal cancer; PH = knowledge of healthy lifestyle; SK = anxiety towards colorectal cancer; TS = attitude for screening colorectal cancer; PRKS =delaying in colorectal cancer treatment.

(PG) has a significant effect on anxiety attitudes towards colorectal cancer (SK), performing colorectal cancer screening tests (TS), and delaying in colorectal cancer treatment (PRKS).

The effect of PG on SK is negative, indicating that the better the knowledge about the symptoms of colorectal cancer, the lower the anxiety attitude towards colorectal cancer. While the effect on TS and PRKS is positive, this indicates that the better the knowledge about the symptoms of colorectal cancer, the better the attitude to do screening tests and the earlier they are in treating colorectal cancer. On the other hand, knowledge about a healthy lifestyle (PH) indirectly has no significant effect on all endogenous variables (SK, TS, and PRKS).

DISCUSSION

In this study, the proportion of male and female respondents was 50%, and the majority of subjects were between the ages of 50 and 65. This result is different from the worldwide data, showing colorectal cancer often occur in women aged >70 years [7]. This process is caused by women in advanced age experiencing menopause and reduction in estrogen exposure. Decreased estrogen exposure increases microsatellite instability which will later develop into colorectal cancer [7].

Most of the people in this study are married. Based on a previous study, unmarried patients had a 52% higher chance of obeying the treatment than married patients [8]. Most of the respondents in this study worked with the highest level of education being junior high school. The level of education affects the understanding of individuals to receive health information, so it affects lifestyles that can increase the risk of colorectal cancer [9].

This study shows that the patient's knowledge about the symptoms of colorectal cancer has a significant positive effect on the patient's treatment delay. However, the knowledge of a healthy lifestyle in colorectal cancer patients has no significant effect on colorectal cancer. Some of the causes that make colorectal cancer patients delay treatment are patients who do not recognize important signs, are embarrassed to consult and are afraid to be diagnosed with cancer. Social factors such as age, status, and distance in health services can also affect patient treatment [10].

Previous research in India showed that patient knowledge about colorectal cancer symptoms could decrease the delay of treatment in colorectal cancer patients [11]. The research by Taghadossi et al. shows that patients who have insufficient knowledge of heart disease will be late for treatment for heart disease [12]. Research on tuberculosis patients shows that high knowledge is associated with timely treatment [13].

This study shows that the attitude of anxiety due to colorectal cancer did not affect the delay in treatment. However, the patient's attitude about the colorectal cancer screening test significantly affected the patient's delay in treatment. The most important indicator of an anxious attitude is the financial burden on the family. The family greatly influences children's anxiety, so it is necessary to educate patients and families about colorectal cancer [14]. These results are supported by previous research that the financial condition affect treatment. The use of insurance is known to increase the financial capacity of cancer patients so that they can seek treatment [15].

The most important indicator of screening test attitude is fear of undergoing a bowel cancer screening test. Patients frequently feel embarrassed while being examined, fear contracting AIDS, fear of pain while being examined, fear that their cancer has spread, and lack belief in medical professionals. [16]. Therefore, medical personnel need to provide education so that patients do not feel afraid to seek treatment.

In this study, knowledge about the symptoms of colorectal cancer harms the patient's anxious attitude. The results of this study supported previous studies that showed a patient who knows about the disease would have low levels of anxiety about cancer [17]. In this study, the variable with the strongest direct influence on delay in treatment was knowledge about the symptoms of colorectal cancer. Then followed by the attitude of performing a screening test. In this study, the knowledge variable did not indirectly affect delays in treatment in colorectal cancer patients. Patients' knowledge about colorectal cancer can increase their awareness so that they desire to seek treatment in anticipation of delays in the treatment of colorectal cancer.

This study's results indicate the importance of educating patients about the symptoms of colorectal cancer and lifestyle in its prevention. In addition, it is necessary to educate patients to have a cooperative attitude in colorectal cancer screening so that they can take treatment on time. However, this study used a sample of stage 4 colorectal cancer patients who already had a poor prognosis, so further research with an early stage was needed to prevent a worsening of the prognosis.

The model, which involves knowledge and attitude variables, has predictive power on the behavioral variable for treatment delays of 36.3%. The model can only explain the phenomenon of treatment delay behavior by 36.3%, and other variables and errors influence the remaining 63.33%. This result can be caused by other factors that can affect the delay in treatment. Based on research by Nasution et al. (2015) showed that the most influential factors are early symptoms that appear and health services [18]. Another study by Pelima (2021) showed that the most influential factor in the delay in the early diagnosis of breast cancer patients was the level of education. In addition, other influencing factors are knowledge, illiteracy, and rural areas [19].

This study did not evaluate the occupation of subjects, that could influence patients in gaining knowledge about a disease. In addition, this study did not analyze the initial symptoms, health services, illiteracy, and rural areas, so further research is needed on the relationship with delays in treatment [20].

CONCLUSION

The conclusion is the knowledge and attitudes of patients about colorectal cancer are associated with the treatment delay. Increasing knowledge and attitudes of patients can reduce the treatment delay on stage IV colorectal cancer patients to come to RSSA.

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CONFLICT OF INTEREST

The authors declare there is no conflict of interest regarding the publication of this article.

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