Self-Efficacy and Heart Communication Skills Effects on Cancer Patients' Recovery Motivation

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Abstract

Cancer is a disease with a high mortality rate in the world, including in Indonesia. Recovery motivation is an essential factor in the healing process of cancer patients, and various psychological aspects, including self-efficacy and heart communication skills, influence it. This study aims to analyze the effects of self-efficacy and communication skills on cancer patients' recovery motivation at the Indonesian Cancer Foundation, Yogyakarta Special Region Branch (YKI DIY). The research method used is quantitative with a correlational survey. The research sample consisted of 55 cancer patients determined using a simple random sampling technique. Data were collected through a questionnaire measuring self-efficacy, heart communication skills, and cancer patients' recovery motivation. Data analysis used multiple linear regression tests to identify the influence of variables. The results showed that self-efficacy and heart communication skills simultaneously affected cancer patients' recovery motivation. Based on the multiple regression analysis, heart communication skills had a more significant effect than self-efficacy. These findings indicate that heart communication skills, encompassing thought processing, feeling processing, managing heart trash, sympathy, empathy, peace, and happiness, are dominant in increasing cancer patients' recovery motivation. The contribution of this study is to provide a new understanding of the importance of heart communication skills in supporting the recovery of cancer patients. The study's results support the Heart Communication Theory, which emphasizes that thought processing and feeling processing, heart trash management, sympathy, and empathy for a peaceful and happy life can positively increase mental resilience and quality of life in cancer patients. Thus, the heart communication approach can be used as a psychological intervention strategy to improve the motivation to recover in cancer patients.

Keywords: cancer, *cancer patients'* recovery motivation, heart communication skills, psychology, self-efficacy

INTRODUCTION

Cancer is the second leading cause of death in the world. Data from the Global Burden of Cancer (GLOBOCAN) released by the World Health Organization (WHO) Media Team (2024) shows that cancer causes 9.6 million deaths each year. Modifiable factors, such as obesity, smoking, and lack of physical activity, have been shown to increase the fatality of cancer (Cotangco et al., 2023). Referring to data from the Global Cancer Observatory in 2022, some of the most common cancers affecting women are breast, cervical, and ovarian cancers, with breast cancer being the leading cause of cancer death among women globally, while lung cancer and colorectal cancer are the highest types of cancer that attack men (Figure 1). A variety of factors, including biological, environmental, and lifestyle factors, influence the prevalence of cancer in women. One major factor contributing to the high incidence of cancer in women is the unique hormonal changes that occur throughout their lives. Prolonged exposure to estrogen, for example, has been associated with an increased risk of breast and endometrial cancers (Mathew, 2016).

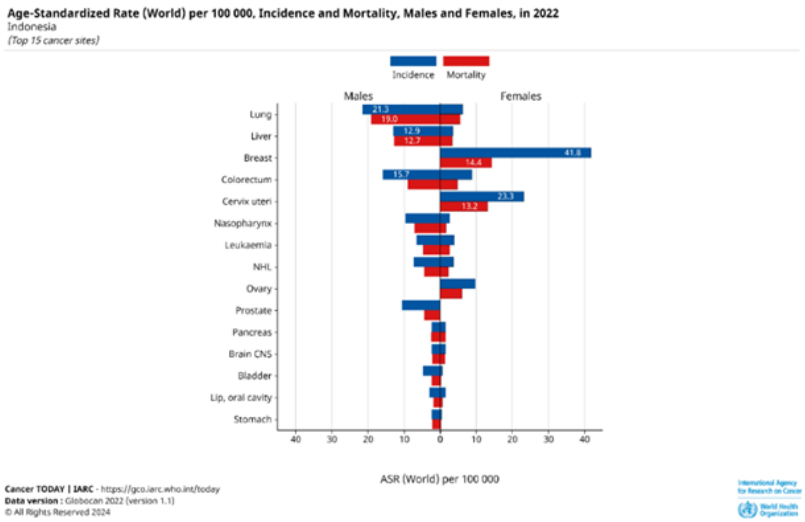

Figure 1. Indonesian Cancer Data
(Source: Ferlay et al., 2024)

A report from the Indonesian Ministry of Health in 2023 showed that the prevalence of cancer in Indonesia reached 1.2 per thousand, which means that 1 in 1,000 people in Indonesia have been diagnosed with cancer. The report stated that the province of the Special Region of Yogyakarta (DIY) has the highest number of cancer cases, with a prevalence of 3.6 per thousand (Figure 2). This prevalence is higher than the national average. Based on global data, the prevalence of cancer in men and women shows significant differences. According to Globocan 2018 data, globally, 1 in 5 men and 1 in 6 women experience cancer, with a mortality rate of 1 in 8 men and 1 in 11 women (Rokom, 2019). Data in Indonesia shows that women have a higher incidence of cancer than men. According to Globocan 2020 data, there were 396,914 new cases of cancer in Indonesia, with breast cancer in women reaching 16.6% of the total cases and cervical cancer at 9.2%. Meanwhile, lung cancer, which is more common in men, reached 8.8% of the total cases (Prasetya et al., 2023). In addition, data from Dr. Sardjito General Hospital, Yogyakarta, for

2008-2021 shows that of the 48,429 new cancer cases, 62.9% were women. So, it can be concluded that both globally and in Indonesia, women tend to have a higher prevalence of cancer than men, primarily due to the high cases of breast and cervical cancer in women (Andriyani, 2025).

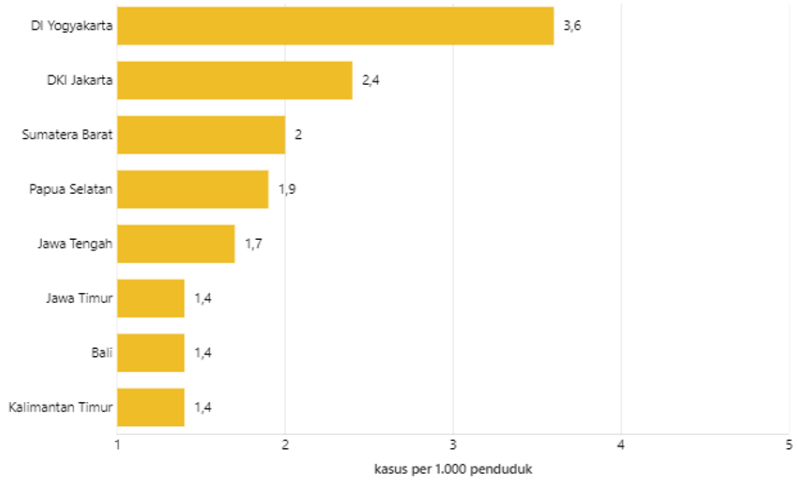

Figure 2. Data on Provinces with the Highest Cancer Cases in Indonesia
(Source: Ahdiat, 2024)

Cancer treatment requires support from various parties and requires substantial resources. These aspects often affect successful cancer diagnosis and treatment (Torre et al., 2017).To treat cancer, there are several cancer treatment places in DIY, one of which is the Indonesian Cancer Foundation DIY Branch (YKI DIY). YKI DIY is a non-profit organization focusing on the health sector, especially in combating cancer. Recapitulation data on patients and types of cancer in 2024 showed that there were 68 patients with 18 types of cancer at YKI DIY (Figure 3).

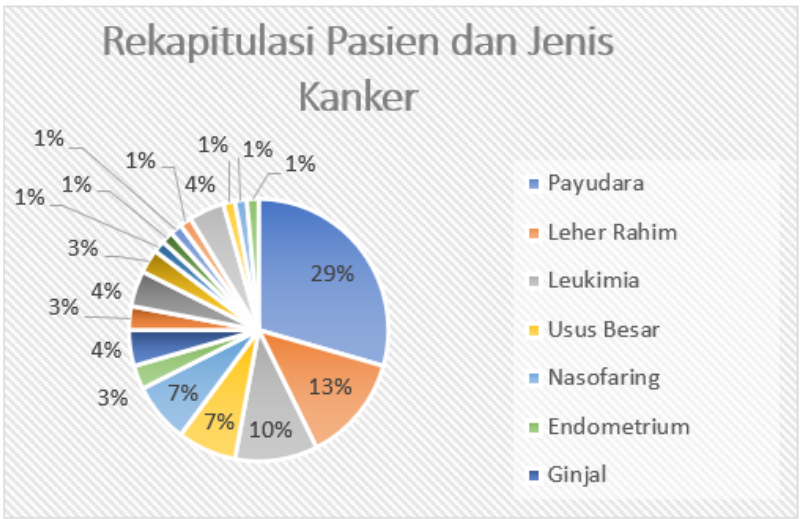

Figure 3. Recapitulation of Patients and Cancer Types
(Source: YKI DIY, 2024)

YKI DIY employs three approaches for cancer patients: a religious approach, a social approach, and a psychological approach. The three approaches are tailored to each patient's characteristics. YKI DIY makes these efforts to encourage the recovery motivation and the spirit of cancer patients.

Cancer patients experience serious physical problems during diagnosis, prognosis, and the impact of the therapy carried out (Yuanisa et al., 2022). These problems make cancer patients experience depression feel worse during therapy and affect their quality of life. Cancer patients who experience depression can feel reduced energy, increased stress caused by the disease and its treatment, and decreased immune system function. Heart communication and emotional control are needed to minimize depression experienced. Self-efficacy also plays a role in shaping cancer patients' emotional responses. Self-efficacy is a sense of confidence in the ability to control symptoms and problems related to cancer treatment. Self-efficacy can affect good health by influencing motivation, cognition, and behavior (Supaati et al., 2024). Self-efficacy is related to the compliance of cancer patients in the treatment process (Wiadnyani et al., 2024). Self-efficacy influences how cancer patients cope with diagnosis and treatment.

Studies conducted by Kurt & Sarıkaya (2022) showed a positive correlation between cancer self-efficacy and symptom control. Higher levels of self-efficacy were associated with decreased symptom severity. High self-efficacy in cancer patients leads to the selection of problem-solving and seeking support as coping mechanisms, influencing motivation to overcome challenges in cancer treatment (Werdani & Sari, 2024). Research shows a positive correlation between self-efficacy and resilience in cancer patients. Self-efficacy can influence patient behavior in dealing with cancer and chronic diseases—self-efficacy and cancer patients' recovery motivation lead to better treatment compliance in the concept of psychoeducation.

Previous research on self-efficacy by Wiadnyani et al. (2024) in Gianyar found that high self-efficacy among breast cancer patients is associated with patient compliance during the healing process, especially during chemotherapy. The study aligns with the results that patients who receive more information can be actively involved in the treatment process, manage stress, and increase motivation in healing therapy (Nihayati et al., 2021). Cancer patients experience psychological challenges such as anxiety and depression that harm the therapy process. Research results by Yuanisa et al. (2022) showed that out of a total of 34 cervical cancer patients, 13 respondents experienced moderate depression, 12 experienced severe depression, five respondents experienced mild depression, and four respondents did not experience any depression at all. Another study conducted by Hartono & Pohan (2017) linking self-efficacy with positive behavioral intentions found that it can contribute to long-term health and a better quality of life. Increasing self-efficacy through cognitive strategies helps patients manage pain and emotional responses related to treatment motivation (Hasnizar, 2022).

High self-efficacy is correlated with better quality of life in cancer patients, both physically and emotionally (White et al., 2019). This correlation aligns with heart communication through thought processing, feeling processing, managing heart trash, and the expression of sympathy, empathy, peace, and happiness, which can affect a person's emotions and heart situation. Positive affirmations have increased self-efficacy by reducing

feelings of helplessness and fatigue. Increasing self-efficacy through positive thinking can reduce stress and depression and encourage a healthier life (Harisa et al., 2024). However, Goudarzian (2024) emphasizes that sympathy involves feelings of compassion and concern for cancer patients, but it can also have negative consequences. These consequences can happen if there is an unintentional reinforcement of feelings of pity and helplessness in cancer patients, which can ultimately damage the psychology of the patient and the well-being or happiness of cancer patients. For this reason, careful integration is needed so that positive thinking, positive feelings, heart trash management, sympathy, empathy, peace, and happiness can increase cancer patients' recovery motivation.

Heart communication is a form of communication based on conscience, which gives meaning to attitudes and actions in the past, present, and future (Lestari et al., 2024). Heart communication skills play a significant role in increasing cancer patients' recovery motivation by managing thoughts, feelings, and social interactions that affect patients' psychological and physical conditions. Heart communication is a process that involves understanding and expressing thoughts and feelings with inner awareness (Safitri et al., 2024). Based on the Heart Communication Theory (HCT), heart communication refers to the process of thinking (*olah pikir*), feeling (*olah rasa*), managing heart trash (*kelola sampah hati*), sympathy (*simpati*), empathy (*empati*), and living a peaceful (*hidup damai*) and happy life (*hidup bahagia*), which can form a positive attitude, which ultimately influences the positive behavior of individuals (Lestari, 2023). In the context of cancer survivors, heart communication skills can contribute to changing negative thought patterns, such as anxiety, fear, and despair, into more constructive thought patterns, such as optimism and enthusiasm for undergoing treatment. This stable psychological state has implications for increased endurance and a better response to medical therapy, as supported by various studies showing a relationship between favorable mental states and improved immune function.

Heart communication allows individuals to manage negative emotions or "heart trash," namely, various destructive feelings such as stress, anger, and helplessness that can worsen the patient's health condition. Cancer survivors can convert negative emotions into positive energy that supports their psychosocial well-being by doing thought and feeling exercises (Lestari, 2023). In addition, heart communication skills also play a role in building social support from family, medical personnel, and the surrounding community. Interpersonal relationships built on empathy and deep understanding help patients feel more appreciated and supported, thereby increasing their compliance with treatment procedures and strengthening their hope for recovery.

In addition to the psychosocial aspect, heart communication correlates with spirituality and gratitude, helping people accept the condition more calmly and peacefully. The spiritual aspect strengthened through heart communication allows patients to be more resilient in facing challenges during treatment. Thus, heart communication not only supports physical healing but also improves the quality of life of cancer survivors. Through honest, sincere, and conscience-based communication, patients can recover more positively and be more motivated to continue fighting to achieve healing.

Motivating cancer patients to recover is important for optimizing their functional capacity before and during treatment.(Pinelli & Mottuel, 2024). Recovery Motivation is

crucial for cancer patients, as it directly impacts their engagement with treatment and overall well-being (Irawandi et al., 2024). Self-efficacy is needed to increase the cancer patients' recovery motivation, involving self-reflection and self-dialogue in recovery through thinking, feeling, and managing the heart's trash, sympathy, and empathy, to achieve peace and happiness. These skills can be a coping mechanism and additional source of stress, because sufferers are able to navigate their own abilities. A person's cognitive, behavioral, and self-regulation abilities can determine the steps needed to achieve something (Ambarwulan et al., 2016).

Positive thinking can enhance the resilience and quality of life of cancer patients by improving their ability to adapt and survive (Werdani & Sari, 2024). The Heart Communication Theory shows that when someone has navigated their thinking, feelings, and the management of the heart's trash, an attitude of sympathy, empathy, peace, and happiness will emerge (Lestari, 2023). Self-efficacy and heart communication skills are examples of factors that are related to determining the behavior of cancer patients in providing recovery motivation. Based on the background, this study examines the influence of self-efficacy and communication skills on cancer patients' recovery motivation at the Indonesian Cancer Foundation, Yogyakarta Special Region Branch. This study aims to analyze the influence of self-efficacy and heart communication skills on the cancer patients' recovery motivation. In addition, this study also focuses on the influence of each variable, namely, how self-efficacy and heart communication skills individually contribute to increasing the cancer patients' recovery motivation.

METHODOLOGY

This study is a quantitative study using a correlational survey method that aims to analyze the relationship between self-efficacy and heart communication skills with cancer patients' recovery motivation at the Indonesian Cancer Foundation, Yogyakarta Special Region Branch. The data collected are numerical and analyzed by comparing relevant theories. In this study, self-efficacy (X1) and heart communication skills (X2) serve as independent variables, and cancer patients' recovery motivation (Y) is the dependent variable, analyzed via a survey.

This study uses a probability sampling technique, specifically simple random sampling, in which each member of the population has an equal chance of being selected into the sample, without regard to a specific level. The study population comprised 68 cancer patients at the Indonesian Cancer Foundation, Yogyakarta Special Region Branch. To determine the sample size, the Yamane formula was used (Sugiyono & Lestari, 2021), yielding a sample size of 55 people.

The concept definition in this study explains the main characteristics of each variable. Self-efficacy (X1) is an individual's belief in their ability to face, manage, and successfully complete tasks or challenges of varying difficulty across different situations. In the context of cancer patients, self-efficacy plays an important role in shaping recovery motivation: the higher an individual's belief in their ability, the greater their drive to undergo treatment and achieve recovery. Heart communication skills (X2) are a person's abilities to apply Heart Communication Theory, emphasizing that thoughts and feelings greatly influence attitudes and behavior. When individuals have a positive attitude, are able to manage emotions by

transforming negative feelings into positive energy, and eliminate resentment (heart trash), sympathy and empathy can develop toward others, leading to greater peace, happiness, and an improved quality of life. In the context of cancer patients, heart communication skills play a role in fostering inner peace, which can increase recovery motivation. The cancer patients' recovery motivation (Y) is defined as an individual's internal drive to achieve better health conditions. In cancer patients, recovery motivation is a form of fighting spirit that encourages them to continue treatment and improve their quality of life to achieve recovery. After knowing this, it is also necessary to know the operational definition shown in Table 1.

Table 1. Operational Definitions

Variables	Operational Definition	Indicator
Self-Efficacy (X1)	*Individual confidence in facing challenges and achieving goals, measured by the General Self-Efficacy (GSE) tool by Schwarzer & Jerusalem (10 question items).*	*a) Magnitude (level)* *b) Strength* *c) Generality (behavior)*
Heart Communication Skills (X2)	*An individual's abilities in thought processing (olah pikir), feelings processing (olah rasa), and managing the heart trash (kelola sampah hati) to create sympathy (simpati), empathy (empati), peace (damai), and happiness (bahagia) (Lestari, 2023).*	*a) Thought processing* *b) Feeling processing* *c) Manage heart trash* *d) Sympathy* *e) Empathy* *f) Peace and happiness*
Cancer Patients' Recovery Motivation (Y)	*The process that explains individual behavior in struggling to recover is a driving factor in cancer recovery (Conger, 1997, in Zahra, 2022).*	*a) Positive attitude* *b) Oriented towards achieving goals* *c) The forces that drive individuals*

Source: *Processed primary data, 2024*

A validity test measures the extent to which a research instrument accurately and consistently measures the intended variables. This test aims to ensure that each item in the questionnaire reflects the concept being measured so that the data obtained can be trusted and used in further analysis. Table 2 shows the results of the validity test for the research instrument.

Table 2. Summary of Instrument Validity Test Results

Variables	Number of Items	R Count Range	R Table	Valid Item Count	Information
Self-Efficacy (X1)	*10*	*0.695-0.861*	*0.361*	*10*	*Valid*
Heart Communication Skills (X2)	*12*	*0.509-0.841*	*0.361*	*12*	*Valid*
Cancer Patients' Recovery Motivation (Y)	*10*	*0.507-0.913*	*0.361*	*10*	*Valid*

Source: *Processed primary data, 2024*

The validity test was conducted using the Pearson product-moment correlation method. The results showed that the r-counts for all questionnaire items exceeded the r-table value ($r = 0.361$; $\alpha = 0.05$), indicating that all items were valid and eligible for further analysis.

Reliability testing measures the consistency and stability of research instruments, ensuring they produce reliable data. This test aims to ensure that each questionnaire indicator has high reliability in measuring the variables under study. An instrument is reliable if the Cronbach's Alpha value meets established standards. Table 3 shows the results of the reliability test in this study.

Table 3. Reliability Test

Indicator	Cronbach's Alpha	Critical Value	Information
Self Efficacy (X1)	*0.924*	*0.6*	*Reliable*
Heart Communication Skills (X2)	*0.894*	*0.6*	*Reliable*
Cancer Patients' Recovery Motivation (Y)	*0.909*	*0.6*	*Reliable*

Source: *Processed primary data, 2024*

RESULTS AND DISCUSSION

Hypothesis

The hypothesis in this study is as follows:

1. Ha1 = There is a significant influence of self-efficacy on cancer patients' recovery motivation at the Indonesian Cancer Foundation, DIY Branch.
   Ho1 = There is no significant influence of self-efficacy on cancer patients' recovery motivation at the Indonesian Cancer Foundation, DIY Branch.
2. Ha2 = There is a significant influence of heart communication skills on cancer patients' recovery motivation at the Indonesian Cancer Foundation, DIY Branch.
   Ho2 = There is no significant influence of heart communication skills on cancer patients' recovery motivation at the Indonesian Cancer Foundation, DIY Branch.

3. Ha3 = There is a significant influence between self-efficacy and heart communication skills on cancer patients' recovery motivation at the Indonesian Cancer Foundation, DIY Branch.
   Ho3 = There is no significant influence between self-efficacy and heart communication skills on cancer patients' recovery motivation at the Indonesian Cancer Foundation, DIY Branch.

Characteristics of Research Respondents

This study involved 55 respondents, categorized by age and gender. The distribution of respondents is shown in Tables 4 and 5.

a. Distribution of Respondents by Age

Table 4. Distribution of Respondents (Age)

Age	Amount	Percentage (%)
21-30 Years	*1*	*1.81%*
31-40 Years	*7*	*12.73%*
41-50 Years	*24*	*43.63%*
51-60 Years	*19*	*34.53%*
>60 Years	*4*	*7.2%*
Total	***55***	***100%***

Source: *Processed primary data, 2024*

Based on Table 4, most respondents were aged 41–50 years (43.63%), followed by those aged 51–60 years (34.53%). Respondents aged 31–40 years accounted for 12.73%, while those aged 60+ accounted for 7.2%. The smallest proportion was the 21–30-year age group (1.81%).

b. Distribution of Respondents by Gender

Table 5. Gender

Gender	Amount	Percentage (%)
Man	*5*	*9.09%*
Woman	*50*	*90.91%*
55	***100%***	***100%***

(Source: *Processed primary data, 2024)*

Table 5 shows that most respondents were female (90.91%), while male respondents accounted for only 9.09%.

Normality Test

The normality test in this study used the Kolmogorov-Smirnov test on 55 respondents to determine whether the research data were normally distributed. The normality test showed the Sig (2-tailed) value was 0.200, which is significant at the specified significance level (0.05). Thus, the Self-Efficacy (X1), Heart Communication Skills (X2), and Cancer Patients' Recovery Motivation (Y) data in this study were normally distributed.

Table 6. Kolmogorov-Smirnov Normality Test

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			55
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		3248.062139
Most Extreme Differences	Absolute		.096
	Positive		.096
	Negative		-.075
Test Statistic			.096
Asymp. Sig. (2-tailed)[c]			.200[d]
Monte Carlo Sig. (2-tailed)[e]	Sig.		.231
	99% Confidence Interval	Lower Bound	.220
		Upper Bound	.242

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

(Source: *Processed primary data, 2024)*

Linear Regression Test

Linear regression test is used to analyze the relationship between independent variables and dependent variables, namely self-efficacy (X1) on the Cancer Patients' Recovery Motivation (Y) and heart communication skills (X2) on Cancer Patients' Recovery Motivation (Y).

Linear Regression Test Variable X1

Table 7. Simple Linear Regression Test for Self-Efficacy Variables

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5218.384	3706.487		1.408	.165
	Self_Efficacy	.698	.121	.620	5.747	<,001

a. Dependent Variable: Motivasi_Sembuh

(Source: *Processed primary data, 2024)*

Based on Table 7, the regression coefficient for self-efficacy (0.698) indicates that a 1% increase in self-efficacy increases cancer patients' recovery motivation by 0.698, with a positive coefficient. In addition, the standardized coefficient (Beta) value of 0.620 indicates that Self-Efficacy strongly influences cancer patients' recovery motivation. Thus, the simple linear regression analysis indicates a positive relationship between self-efficacy and cancer patients' recovery motivation (t = 5.747; p < 0.001).

Table 8. Determination of R-Square Value of Self-Efficacy Variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.620[a]	.384	.372	4844.089	.384	33.023	1	53	<,001

a. Predictors: (Constant), Self_Efficacy

(Source: *Processed primary data, 2024)*

Based on Table 8, the R Square value is 0.384, indicating that self-efficacy contributes 38.4% to cancer patients' recovery motivation.

Linear Regression Test Variable X2

Table 9. Linear Regression Test of Heart Communication Skills Variables

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2167.247	2496.203		-.868	.389
	Komunikasi_Hati	.819	.071	.846	11.542	<,001

a. Dependent Variable: Motivasi_Sembuh

(Source: *Processed primary data, 2024)*

The regression analysis results (Table 9) show that the regression coefficient for heart communication skills is 0.819, indicating that a 1% increase in heart communication skills increases cancer patients' recovery motivation by 0.819, with a positive coefficient value. In addition, the standardized coefficient (Beta) value of 0.846 indicates that heart communication skills strongly influence cancer patients' recovery motivation. Thus, the simple linear regression analysis indicates that heart communication skills are positively related to cancer patients' recovery motivation.

Table 10. Determination of the R-Square Value of Heart Communication Variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.846[a]	.715	.710	3292.373	.715	133.218	1	53	<,001

a. Predictors: (Constant), Komunikasi_Hati

(Source: *Processed primary data, 2024)*

Based on Table 10, the R-square value is 0.715, indicating that the influence of heart communication skills on cancer patients' recovery motivation accounts for 71.5%.

Multiple Linear Regression Test

A multiple linear regression was used to analyze the relationships among self-efficacy (X1), heart communication skills (X2), and cancer patients' recovery motivation (Y). The regression equation obtained in this study is shown in Table 11.

Table 11. Multiple Linear Regression Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2888.482	2735.416		-1.056	.296
	Self_Efficacy	.076	.115	.068	.663	.511
	Komunikasi_Hati	.774	.099	.799	7.843	<,001

a. Dependent Variable: Motivasi_Sembuh

(Source: *Processed primary data, 2024)*

Y=−2888.482+0.076X1+0.774X2+e

The analysis results show that the constant of -2888.482 indicates that, in the absence of independent variable effects, cancer patients' recovery motivation tends to be negative. The regression coefficient for self-efficacy is 0.076, while that for heart communication skills is 0.774, indicating that both variables have positive coefficients. However, based on the partial test (t-test), self-efficacy does not have a statistically significant effect on cancer patients' recovery motivation ($t = 0.663$; $p > 0.05$), whereas heart communication skills have a significant positive effect ($t = 7.843$; $p < 0.001$). Therefore, heart communication skills are the only variable with a significant partial effect on cancer patients' recovery motivation in the multiple regression model.

Hypothesis testing was conducted to examine the relationships among self-efficacy (X1), heart communication skills (X2), and Cancer Patients' Recovery Motivation (Y). The analysis was performed using multiple linear regression, including the correlation

coefficient (R), the F-test (simultaneous), the t-test (partial), and the coefficient of determination (R^2), with the assistance of SPSS version 27.

Results of the Correlation Coefficient Test (R Test)

This test aims to determine the direction and strength of the relationship between variables in the study. The test results are shown in Table 12.

Table 12. Relation Coefficient Test

Model	R	R Square	Adjusted R Square	Sig
1	0.847	0.718	0.708	0.001

(Source: *Processed primary data, 2024)*

a. Predictor: (Constant), Heart Communication Skills, Self-Efficacy

Table 12 shows the correlation coefficient (R) value of 0.847, indicating a robust relationship between self-efficacy (X1), heart communication Skills (X2), and cancer patients' recovery motivation (Y). In addition, the significance value <0.001, which is smaller than 0.05, indicates a significant correlation between these variables.

Simultaneous F-Test

The F test was conducted to determine whether self-efficacy and heart communication skills simultaneously affect the cancer patients' recovery motivation. The test results (Table 13) showed that the significance value was <0.001, smaller than the alpha value of 0.05, and the calculated F value was 66.123, which was greater than the F table value of 3.71. These results indicate that self-efficacy and heart communication skills simultaneously contribute to cancer patients' recovery motivation in the multiple regression model. Therefore, Ho_3 is rejected, and Ha_3 is accepted.

Table 13. F Test (Simultaneous Test)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1448854047	2	724427023.6	66.123	<,001[b]
	Residual	569695013.5	52	10955673.34		
	Total	2018549061	54			

a. Dependent Variable: Motivasi_Sembuh

b. Predictors: (Constant), Komunikasi_Hati, Self_Efficacy

(Source: *Processed primary data, 2024)*

T-Test (Partial)

The T-test was conducted to see the influence of each independent variable on the cancer patients' recovery motivation individually. The test results are shown in Table 14. T-Test result showed that Self-efficacy variable (X1) had the significance value 0.511, is greater than the alpha value of 0.05 and the calculated t-value of 0.663, is smaller than the t-table value of 1.673. These results indicate that self-efficacy does not have a statistically significant effect on cancer patients' recovery motivation. Therefore, Ho_1 is accepted and Ha_1 is rejected. Meanwhile, T-Test result for Heart Communication Skills (X2) showed that the significance value is < 0.001, which is smaller than the alpha value of 0.05, and the calculated t-value of 7.843 is greater than the t-table value of 1.673. These results indicate that heart communication skills has a statistically significant effect on cancer patients' recovery motivation. Therefore, Ho_2 is rejected and Ha_2 is accepted.

Table 14. T-Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-2888.482	2735.416		-1.056	.296
	Self_Efficacy	.076	.115	.068	.663	.511
	Komunikasi_Hati	.774	.099	.799	7.843	<,001

a. Dependent Variable: Motivasi_Sembuh

(Source: *Processed primary data, 2024)*

Results of the Determination Coefficient Test (R^2)

The results of the determination coefficient test (Table 15) show that the R Square value is 0.718, indicating that 71.8% of the recovery motivation variables for cancer patients are influenced by self-efficacy (X1) and heart communication skills (X2). While other variables outside this study influence the remaining 28.2%.

Table 15. Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.847[a]	.718	.707	3309.936

a. Predictors: (Constant), Komunikasi_Hati, Self_Efficacy

(Source: *Processed primary data, 2024)*

Based on the hypothesis test results shown in Table 14 and Table 15, it can be concluded that heart communication skills significantly influence cancer patients' recovery motivation. At the same time, self-efficacy partially shows a significant influence. However, when both variables are tested simultaneously, both increase the cancer patients' recovery motivation.

DISCUSSION

This study examined the influence of self-efficacy and heart communication skills on cancer patients' recovery motivation. The results show that self-efficacy and heart communication skills, when tested separately, have a significant effect on cancer patients' recovery motivation. The contribution of self-efficacy to cancer patients' recovery motivation is 38.4%, while heart communication skills have a greater influence, at 71.5%. Referring to the results of the simple linear regression analysis, both self-efficacy and heart communication skills showed positive relationships with cancer patients' recovery motivation. These results indicate that, when each variable is examined independently, higher levels of self-efficacy and better heart communication skills are associated with stronger recovery motivation among cancer patients. These findings indicate that both self-efficacy and heart communication skills positively contribute to strengthening cancer patients' recovery motivation.

Self-efficacy is self-confidence in completing something. Self-efficacy in this study plays a role in regulating cancer patients' emotional responses. Self-efficacy is an effort that appears to be a form of ability to control symptoms and problems related to cancer treatment. According to Shelton et al. (2020), self-efficacy in cancer patients reflects their confidence in managing their disease and significantly affects coping mechanisms, treatment compliance, and psychological well-being. During treatment and therapy, cancer patients often experience depression and self-doubt, so self-efficacy skills are needed, which are related to individual motivation, cognition, and behavior. These skills require the ability to communicate with the hearts of cancer patients to achieve happiness, which is achieved through several stages.

Heart communication skills play an important role in supporting cancer patients' recovery motivation, as an application of Heart Communication Theory (Lestari, 2023). The theory explains that effective communication involves heart-to-heart interaction that promotes peace, happiness, and positive psychological energy through constructive thinking and emotional processing. Heart communication highlights the integration of cognitive and emotional aspects, encouraging individuals to think positively, regulate their feelings, and manage emotional burdens, or "heart trash." These abilities enable patients to reduce psychological distress, maintain emotional balance, and strengthen their willingness to undergo treatment and recovery processes. In this context, self-efficacy is closely related to cognitive beliefs, while effective heart communication reinforces individuals' capacity to translate these beliefs into adaptive behaviors that support healing.

Based on heart communication theory, cancer patients can independently practice several indicators to enhance their recovery motivation. The process of thinking (*olah pikir*) is a mental process that fosters positive thinking and can be practiced through daily self-affirmation and gradual health improvements. The emotional regulation process (olah

rasa) can be developed by recognizing fear or sadness and transforming these feelings into positive energy through reflection, prayer, relaxation, or journaling. Managing heart "trash" (*kelola sampah hati*) involves accepting the condition, forgiving oneself, and releasing resentment or prolonged negative thoughts that increase psychological burden. Patients may also cultivate sympathy (*simpati*) and empathy (*empati*) by showing self-compassion and understanding the emotional concerns of family members or fellow patients, thereby strengthening supportive relationships. Furthermore, maintaining a peaceful, happy life (*hidup damai dan bahagia*) can be achieved through gratitude, engagement in meaningful activities, and inner acceptance of the healing process. These self-directed practices foster psychological stability, optimism, and persistence in undergoing treatment, ultimately strengthening cancer patients' recovery motivation.

The study also showed that both variables, when combined, influence cancer patients' recovery motivation in the simultaneous test. According to the regression analysis, a positive and significant effect was found. The R-squared value obtained was 0.718. So, it can be inferred that 71.8% of the cancer patients' recovery motivation stems from self-efficacy and the heart communication they engage in. In contrast, the remaining 28.2% of the data results are due to factors or variables beyond the scope of the research. Factors beyond self-efficacy and communication skills influence the motivation for cancer patients' recovery. One instrument used to assess cancer patients' recovery motivation is the Motivation for Healing Scale (MHS), which includes aspects such as the desire to survive, optimism, and responsibility (Hosseini et al., 2024). Research by Roose & Endawi (2022) showed that social support is important for increasing cancer patients' recovery motivation, especially in a collectivist culture like Malaysia. Emotional stability and spiritual strategies are also crucial factors in helping patients cope with cancer challenges and improving their psychological well-being. In addition, Muklis et al. (2022) stated that positive relationships with family and nurses have increased patients' self-confidence and understanding of treatment, encouraging their adherence to therapy, especially chemotherapy. Thus, in addition to self-efficacy and heart communication skills, social support, emotional stability, spiritual strategies, and the involvement of family and medical personnel are important factors in motivating cancer patients to recover.

However, the multiple regression test shows heart communication skills remain a significant predictor, while self-efficacy does not demonstrate a significant partial effect. These results highlight the dominant role of heart communication skills in enhancing cancer patients' recovery motivation, indicating that self-efficacy requires emotional and social reinforcement to support recovery. In the context of cancer patients, motivation to recover appears to depend more on supportive communication and emotional interaction than on internal confidence factors. This result may be related to the age characteristics of the respondents, who were predominantly between 40–50 years old, an age range in which individuals tend to emphasize self-acceptance, emotional regulation, and social support rather than self-confidence alone, as described by Erik Erikson in 1994 in (DİŞCİ, 2023), the age of 40-50 is at the generality vs. stagnation stage. Hence, a person relies more on family, community, and emotional and spiritual support. According to the implementation of heart communication theory, efforts by cancer patients, through self-efficacy and emphasizing heart communication skills, are possible to help them feel more peaceful and happy.

The dominant effect of Heart communication skills on cancer patients' recovery motivation is mediated by a person's mindset and emotions. Heart communication provides comfort and feelings that help someone not feel alone through sympathy and empathy, ultimately creating a peaceful and happy atmosphere. This effect is significant for cancer patients, as it motivates their recovery. In line with this, researchers also directly interviewed YKI DIY cancer patients about their recovery motivation.

> *"My motivation to recover is because of my child and my enthusiasm always to think positively so that I can recover and not get sick again, because I also believe that I will recover" (Results of an interview with Maria, Cervical Cancer Survivor on December 9, 2024)*

The interview results align with the variable of heart communication skills (X2), which states that cancer patients' recovery motivation stems from a positive thought process, ultimately triggering enthusiasm among people with cancer.

> *"I accept everything sincerely; coincidentally, I have been sick with cancer for 6 years, and we also provide support to each other as friends; there is also a community, so if there are difficulties regarding the treatment process, we help each other by providing information and encouraging each other" (Results of an interview with Tanti, Cervical Cancer Survivor on December 9, 2024)*

The information conveyed by the informant aligns with the theory of heart communication, which holds that positive thinking and feeling foster attitudes and behaviors that support improving a person's quality of life and health. In addition, based on indicators of heart communication, thought and feeling processing are needed to accept the situation sincerely, which is also reflected in the information from the informant; people living with, even fellow cancer patients, also provide support and assistance to each other, so that sympathy and empathy arise between people with cancer. Positive thinking, positive feelings, letting go of the heart's trash, and being sympathetic and empathetic towards colleagues will create a happy, peaceful atmosphere that people with cancer feel.

This research is in line with some previous studies related to heart communication. One of those was the results of heart communication in the study by Lestari (2023), which states that heart communication can improve people's quality of life and make them much healthier. Research is also relevant to heart communication in fostering sympathy and empathy, which helps lighten the emotional burden experienced by others (Jandevi et al., 2024). Heart communication further assists individuals in overcoming communication difficulties, enabling them to live more peacefully and happily (Safitri et al., 2024). In addition, research by (Handayani & Lestari, 2025) shows that heart communication can enhance resilience among final-year university students in coping with academic pressure, while (Lestari et al., 2025) found that heart communication contributes to strengthening individuals' emotional resilience. As also in the book Heart Communication (Lestari, 2023), it is stated that people who communicate with their hearts will be much happier. These findings reinforce the role of heart communication as an important psychological and intrapersonal (communication within oneself based on positive thoughts and positive

feelings) supports emotional stability and adaptive coping in facing various life challenges, including the recovery process among cancer patients.

Based on this, it can be said that the theory of heart communication has been tested on the population of the Indonesian Cancer Foundation, DIY Branch, to measure the competence of heart communication on the cancer patients' recovery motivation, which is influenced by self-efficacy and heart communication carried out by cancer patients. The theoretical implication of this study is to test the Heart Communication Theory on the recovery motivation in the cancer patient population at the Indonesian Cancer Foundation, DIY Branch. The practical implications of this study are to increase recovery motivation in the cancer patient population at the Indonesian Cancer Foundation, DIY Branch, through self-efficacy and heart communication.

CONCLUSION

This study aims to analyze the influence of self-efficacy and heart communication skills on the cancer patients' recovery motivation, individually, partially, and simultaneously. The results of the simple linear regression analysis indicate that self-efficacy and heart communication skills each show a positive and significant relationship with cancer patients' recovery motivation when examined independently. The contribution of self-efficacy to cancer patients' recovery motivation is 38.4%, while heart communication skills have a greater influence, at 71.5%. Furthermore, the results of the multiple linear regression analysis demonstrate that self-efficacy and heart communication skills simultaneously have a significant effect on cancer patients' recovery motivation. The F test confirmed that the calculated F value of 66.123 was greater than the F table value of 3.71. Therefore, the null hypothesis (Ho_3) is rejected, and the alternative hypothesis (Ha_3) is accepted, meaning that self-efficacy and heart communication skills together significantly influence cancer patients' recovery motivation.

However, the partial test (t-test) in the multiple regression model reveals different roles for each independent variable. Self-efficacy does not have a statistically significant partial effect on cancer patients' recovery motivation ($t = 0.663$; $p > 0.05$); therefore, the null hypothesis (Ho_1) is accepted, and the alternative hypothesis (Ha_1) is rejected. In contrast, heart communication skills have a statistically significant positive partial effect on cancer patients' recovery motivation ($t = 7.843$; $p < 0.001$); thus, the null hypothesis (Ho_2) is rejected, and the alternative hypothesis (Ha_2) is accepted. The insignificant partial effect of self-efficacy indicates that personal belief alone may not be sufficient to directly enhance cancer patients' recovery motivation without emotional and intrapersonal support. In contrast, heart communication skills emerge as the dominant factor in strengthening patients' psychological resilience and motivation throughout the recovery process.

The coefficient of determination ($R^2 = 0.718$) indicates that 71.8% of the variance in cancer patients' recovery motivation can be explained by self-efficacy and heart communication skills, with the remaining 28.2% explained by other factors beyond this study. This finding aligns with the Heart Communication Theory, which explains that positive thinking and feeling can be achieved by managing heart trash and being sympathetic and empathetic, creating a peaceful, happy mood that produces positive energy that affects the quality of life and health. Thus, the theory of heart communication,

involving thought processes, feeling processes, managing heart trash, sympathy, empathy, and living peacefully and happily, has been proven to contribute to and be relevant to increasing cancer patients' recovery motivation at the Indonesian Cancer Foundation, DIY Branch.

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