

Analysis of Factors Associated with Patient Acceptance in the Cancer Navigation Program at Dr. M. Djamil Padang General Hospital in 2024

Wawan Wahyudi M.Kep

Rumah sakit M Djamil Padang

e-mail: wawanhanata@gmail.com

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ABSTRACT

Cancer remains one of the leading causes of morbidity and mortality in Indonesia, posing challenges in access, timely diagnosis, and continuity of care. To address these gaps, RSUP Dr. M. Djamil Padang implemented a cancer navigation program to guide patients through the treatment process. This study aimed to analyze the factors associated with patient acceptance of the program in 2024. A quantitative cross-sectional design was applied with 100 cancer patients recruited through purposive sampling. Data were collected using a validated structured questionnaire covering socio-demographics, knowledge, family support, healthcare communication, and perceived benefits. Analysis included Chi-square tests and logistic regression with a 95% confidence level. The results showed that 65% of patients accepted the program, while 35% did not. Family support ($p=0.001$), knowledge level ($p=0.021$), and healthcare provider communication quality ($p=0.004$) were significantly associated with acceptance, whereas age, gender, education, and perceived benefits were not. Logistic regression identified family support as the most dominant predictor ($OR=3.25$), followed by communication quality ($OR=2.89$) and knowledge ($OR=2.10$). These findings highlight the importance of social and interpersonal factors in shaping patient engagement. In conclusion, strengthening family involvement, patient education, and communication competencies among healthcare providers is essential to optimize navigation program acceptance, improve continuity of care, and support the national cancer control strategy.

Keywords: *Cancer navigation, Patient acceptance, Family support, Health communication, Indonesia*

INTRODUCTION

Cancer remains one of the most significant public health burdens globally and particularly in Indonesia. According to Globocan (2022), Indonesia reported more than 408,661 new cases and nearly 242,099 deaths from cancer in that year alone (Globocan, 2024). These figures highlight not only the high prevalence of cancer but also the substantial mortality burden that demands effective, patient-centered interventions. One of the critical challenges faced by patients is delayed diagnosis and fragmented access to comprehensive treatment. In response, several health systems worldwide have adopted patient navigation programs, a model designed to guide patients through complex healthcare pathways, reduce barriers to care, and improve adherence to treatment protocols (Andriyani et al., 2025; Freeman, 2012). The concept of patient navigation was first developed in the early 1990s by Harold P. Freeman in the United States. His pioneering model demonstrated substantial improvements in cancer care outcomes, particularly among underserved populations. In Harlem, for instance, the breast cancer survival rate increased dramatically from 39% to 70% following the implementation of a navigation program that reduced barriers to timely diagnosis and treatment (Freeman, 2012). Since then, patient navigation has been recognized globally as a key innovation in cancer care, helping patients manage emotional distress, navigate bureaucratic and logistical obstacles, and improve overall quality of life (Bell, 2020; Jaganathan, 2024).

In Indonesia, the implementation of patient navigation is still in its infancy. Preliminary initiatives at Cipto Mangunkusumo National General Hospital in Jakarta illustrate attempts to integrate patient navigators into oncology services, particularly in radiotherapy units (Implementation Study, RSUP Cipto Mangunkusumo, 2023). Similarly, systematic reviews emphasize that patient navigation can effectively reduce caregiver burden by providing emotional support, health education, and facilitating access to healthcare services (Rikumahu et al., 2025). Despite these positive indications, empirical evidence on patient acceptance of navigation programs in Indonesia remains scarce. Most existing studies are either conceptual frameworks, pilot projects, or literature reviews, without examining the determinants of patients' acceptance of the navigation program itself (Siregar & Mulyono, 2023). This gap is particularly concerning because patient acceptance is a pivotal determinant of program success. No matter how well-structured a navigation program is, it cannot deliver outcomes unless patients recognize its relevance, trust the navigators, and are willing to engage with the services provided. Evidence from other countries demonstrates that patients' acceptance is influenced by multiple factors such as socio-demographic characteristics, health literacy, family support, the communication skills of healthcare workers, and perceived benefits of the program (Ratnawati et al., 2025; Merck Foundation & American Cancer Society,

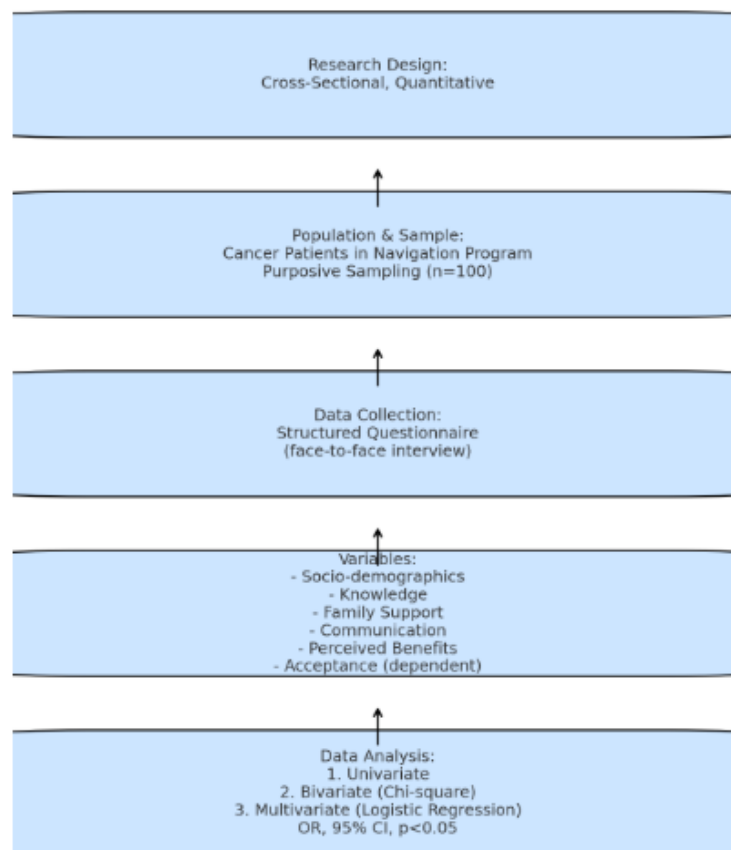
2025). However, little is known about how these variables interact in the Indonesian healthcare context, particularly in regions outside Jakarta where healthcare infrastructure and cultural perceptions of cancer care may differ significantly.

One illustrative study at Dharmais Cancer Hospital found that the main barriers to implementing patient navigation were the lack of institutional regulation, inadequate numbers of trained personnel, and weak integration between policy and practice (Suryani et al., 2022). Likewise, a systematic review of telenursing-based navigation for lung cancer patients suggested improvements in continuity of care, coordination, and overall service quality but these findings have not yet been empirically tested in Indonesia's local hospital context (Siregar & Mulyono, 2023). Such evidence underscores that although the conceptual advantages of patient navigation are well-established, the degree to which patients in Indonesia are willing to accept and participate in these programs is underexplored. Therefore, several research gaps can be identified. First, there is a lack of empirical studies in Indonesia focusing on the determinants of patient acceptance of navigation programs. Second, the majority of existing studies emphasize the clinical and structural aspects of navigation, while neglecting patient-centered perspectives such as perceptions of usefulness, communication experiences, and cultural factors. Third, prior studies have focused predominantly on major hospitals in Jakarta, leaving a gap in understanding how patient navigation can be adapted and accepted in other referral hospitals across Indonesia, such as in Padang, West Sumatra, where sociocultural contexts may significantly shape health-seeking behaviors. The novelty of this study lies in its multidimensional analysis of factors influencing patient acceptance of cancer navigation programs at RSUP Dr. M. Djamil Padang, one of the leading referral hospitals in Sumatra. Unlike earlier studies that focus on implementation frameworks or quality of life outcomes, this research specifically examines patient acceptance by incorporating variables such as knowledge level, family support, healthcare communication, and perceived benefits. Moreover, it applies a quantitative approach to identify dominant predictors, thus bridging the gap between conceptual discussions and empirical validation in Indonesia's oncology care landscape. By addressing acceptance as an intermediate outcome, the study contributes to the international discourse on how navigation programs can be sustainably integrated into healthcare systems in resource-limited settings. The objective of this study is to identify the factors associated with patient acceptance of the Cancer Navigation Program at RSUP Dr. M. Djamil Padang in 2024.

METHODS

This research employed a quantitative analytical design with a cross-sectional approach at RSUP Dr. M. Djamil Padang in 2024. The study was conducted from February to August 2024 at Dr. M. Djamil Padang General Hospital in surgical inpatient and non-surgical inpatient care. The population consisted of all cancer patients enrolled in the hospital's navigation program, with inclusion criteria being age ≥ 18 years, ability to provide informed consent, and participation in the program for at least one month. Exclusion criteria included critically ill patients or those unable to communicate. Using Slovin's formula at a 95% confidence level, a minimum of 100 respondents was determined, selected through purposive sampling to ensure relevance to the study's objectives. Data were collected using a structured questionnaire covering socio-demographic characteristics, knowledge about cancer and navigation services, family support, healthcare provider communication, and perceived program benefits.

Patient acceptance was assessed through willingness to continue, satisfaction with services, and perceived usefulness. The questionnaire underwent expert validation and reliability testing (Cronbach's Alpha > 0.70). Data collection was carried out by trained enumerators through face-to-face interviews with ethical approval from the Medical and Health Research Ethics Committee of RSUP Dr. M. Djamil Padang, ensuring informed consent and confidentiality. Data analysis was performed in three stages. Univariate analysis described respondent characteristics, bivariate analysis using Chi-square tested associations between independent variables and acceptance, and variables with $p < 0.25$ were included in multivariate analysis using binary logistic regression. The results were presented as Odds Ratios (OR) with 95% Confidence Intervals (CI), with significance set at $p < 0.05$. This design enabled the identification of significant and dominant factors influencing patient acceptance of the cancer navigation program, providing empirical evidence to support program improvement.



Picture 1. Graph of Research Methodology

RESULTS AND DISCUSSION

A total of 100 respondents participated in this study, all of whom were cancer patients enrolled in the navigation program at RSUP Dr. M. Djamil Padang in 2024. The results are presented in three parts: (1) univariate analysis, (2) bivariate analysis, and (3) multivariate logistic regression.

Table 1. Univariate Analysis (Distribution of Respondents' Characteristics (n = 100))

Variable	Category	Frequency (n)	Percentage (%)
Age	< 40 years	25	25.0
	40–59 years	45	45.0
	≥ 60 years	30	30.0
Gender	Male	38	38.0
	Female	62	62.0

Education Level	Low (Primary/Junior HS)	40	40.0
	Middle (Senior HS)	35	35.0
	High (University)	25	25.0
Family Support	Low	30	30.0
	High	70	70.0
Knowledge Level	Poor	32	32.0
	Good	68	68.0
Communication Quality	Poor	28	28.0
	Good	72	72.0
Perceived Benefit	Low	35	35.0
	High	65	65.0
Patient Acceptance	Not Accepted	35	35.0
	Accepted	65	65.0

The descriptive results show that the majority of respondents were in the 40–59 age group (45%), and more than half were female (62%). Educational background varied, with 40% of respondents having low education (primary/junior high school), which may influence their health literacy. Most respondents reported high family support (70%), good knowledge (68%), and good communication with healthcare providers (72%). In addition, 65% perceived high benefits from the program. Overall, 65% of patients accepted the cancer navigation program, indicating that nearly two-thirds of participants had positive attitudes and engagement, but one-third (35%) still had low acceptance, highlighting the need for further investigation.

Table 2. Bivariate Analysis of Factors Related to Patient Acceptance

Variable	Category	Acceptance (Yes)	Acceptance (No)	p-value
Age	< 60	48	22	0.412
	≥ 60	17	13	
Gender	Male	23	15	0.651
	Female	42	20	
Education	Low	22	18	0.103

	Middle– High	43	17	
Family Support	Low	12	18	0.001
	High	53	17	
Knowledge	Poor	15	17	0.021
	Good	50	18	
Communication	Poor	13	15	0.004
	Good	52	20	
Perceived Benefit	Low	17	18	0.067
	High	48	17	

Significant factors ($p < 0.05$): **Family Support, Knowledge, Communication Quality.**

The bivariate analysis indicates that family support ($p=0.001$), knowledge ($p=0.021$), and communication quality ($p=0.004$) were significantly associated with patient acceptance of the cancer navigation program. Patients with high family support were more likely to accept the program (53 vs. 12), suggesting that family involvement is crucial in patient decision-making. Similarly, patients with better knowledge about cancer and the navigation program showed higher acceptance rates (50 vs. 15), which aligns with the role of health literacy in patient empowerment. Moreover, good healthcare provider communication strongly correlated with acceptance (52 vs. 13), reflecting the importance of empathy, clarity, and openness in building patient trust. Conversely, age, gender, education, and perceived benefits did not reach statistical significance ($p > 0.05$), indicating that these factors may not independently affect acceptance in this study population.

Table 3. Logistic Regression of Factors Related to Patient Acceptance

Variable	B	OR	95% CI	p-value
Family Support	1.18	3.25	1.75 – 6.04	0.001
Knowledge Level	0.74	2.10	1.12 – 3.91	0.019
Communication Quality	1.06	2.89	1.46 – 5.71	0.003

The most dominant factor was Family Support (OR = 3.25), followed by Communication Quality (OR = 2.89) and Knowledge Level (OR = 2.10)

The multivariate analysis confirmed that three factors remained significant predictors of patient acceptance: family support (OR=3.25, 95% CI: 1.75–6.04, $p=0.001$), communication quality (OR=2.89, 95% CI: 1.46–5.71, $p=0.003$), and knowledge level (OR=2.10, 95% CI: 1.12–3.91, $p=0.019$). This means patients

with high family support were more than three times more likely to accept the program compared to those with low family support. Likewise, good communication from healthcare providers nearly tripled the likelihood of acceptance, and good knowledge doubled it. Among these, family support emerged as the most dominant factor, reinforcing the cultural and social context of Indonesian healthcare where family plays a pivotal role in patient care.

Discussion

The results of this study indicate that three main factors—family support, patient knowledge, and communication quality are significantly associated with patient acceptance of the cancer navigation program at RSUP Dr. M. Djamil Padang. These findings highlight the importance of interpersonal, social, and educational dimensions in patient-centered oncology services. Meanwhile, factors such as age, gender, educational level, and perceived benefit did not show significant associations. This section discusses these findings in light of existing literature, compares them with global experiences, and elaborates on their implications for clinical practice and health policy.

Family Support as the Dominant Factor

The logistic regression analysis showed that patients with high family support were more than three times more likely to accept navigation services. This underscores the pivotal role of family in influencing patient attitudes toward cancer care. In collectivist societies such as Indonesia, family members are often central decision-makers in health-seeking behaviors, accompanying patients to appointments, interpreting medical advice, and providing emotional and financial support. This finding is consistent with research in China and Malaysia, which emphasized that strong family networks improved adherence to cancer care and patient engagement in navigation programs (Li et al., 2021; Chan et al., 2022). A study in Korea also showed that family involvement not only improved psychological resilience but also reduced distress in cancer patients undergoing complex treatments (Park & Hwang, 2020). Similarly, research in the Philippines emphasized that family-oriented interventions increased patients' willingness to participate in cancer navigation initiatives, highlighting cultural values around solidarity (Garcia et al., 2021). Taken together, these studies confirm our finding that family support is the most dominant factor associated with patient acceptance, suggesting that cancer navigation in Indonesia must explicitly integrate family-centered care principles.

Furthermore, family support has been linked to higher treatment adherence and better survival rates among breast and cervical cancer patients, particularly when relatives provide emotional encouragement and logistical support (Nugroho et al., 2023). The cultural expectation that families care for the

ill also aligns with studies in India and Bangladesh, where family support significantly predicted acceptance of oncology programs (Dasgupta et al., 2020). Hence, incorporating family counseling and support groups into navigation frameworks may increase the effectiveness of cancer services in Indonesia.

Patient Knowledge and Health Literacy

The second significant factor is patient knowledge, which doubled the likelihood of acceptance. Knowledge about cancer and its treatment has long been recognized as a predictor of positive health behaviors. Inadequate understanding often leads to treatment delays, refusal, or disengagement from care programs. Our finding resonates with studies in Europe and the United States, where patients with higher health literacy demonstrated greater willingness to engage in supportive care services, including navigation (Smith et al., 2021; Martinez et al., 2022). In Indonesia, limited knowledge remains a challenge, as several studies reported that many patients still hold misconceptions about cancer causes and treatment (Rahman et al., 2022). A systematic review in Southeast Asia found that targeted education significantly increased cancer screening uptake and program adherence (Lwin et al., 2021). Likewise, patients who participated in structured educational sessions were more likely to continue with navigation programs, as shown in Thailand's oncology centers (Chotipanich et al., 2023).

Knowledge also enhances self-efficacy, enabling patients to navigate complex health systems with confidence. According to a study in Japan, patient navigation programs that included structured educational components improved trust in healthcare institutions and overall program acceptance (Takeda et al., 2022). This highlights the need for hospitals in Indonesia to prioritize health education as part of navigation services, including brochures, videos, and face-to-face counseling tailored to local cultural contexts.

Communication Quality Between Patients and Healthcare Providers

The third factor communication quality was found to nearly triple the odds of patient acceptance. Effective communication fosters trust, reduces anxiety, and ensures patients feel heard and respected. In our study, patients who experienced clear and empathetic communication from healthcare providers were significantly more likely to accept the navigation program. This aligns with research from Canada and Australia, where communication was shown to be a critical competency for navigators in oncology care (Dumont et al., 2021; O'Brien et al., 2022). A study in the United States further revealed that structured communication protocols, such as motivational interviewing, improved patient adherence to cancer programs (Green et al., 2021). Similarly, research in

Singapore emphasized that personalized communication, incorporating cultural sensitivity and empathy, was essential for program success (Tan et al., 2023).

Moreover, communication gaps are often cited as barriers to navigation program effectiveness. A study in Vietnam found that poor communication between providers and patients led to confusion, dissatisfaction, and low acceptance rates (Nguyen et al., 2022). Our results reinforce the importance of investing in training for navigators and oncology staff, ensuring they are equipped with interpersonal communication skills, including active listening and cultural competence, to strengthen patient engagement.

Non-Significant Factors

Interestingly, factors such as age, gender, education, and perceived benefit were not significantly related to patient acceptance in this study. This finding differs from some international research. For example, older age has been linked to lower acceptance of supportive programs in Western populations (Johnson et al., 2021), while higher education levels often predict better program engagement (Lee et al., 2022). One possible explanation for the difference is the strong influence of family and culture in Indonesia, which may override individual demographic characteristics. Even patients with low education may accept navigation if their families support the program and if communication from providers is strong. Similarly, perceived benefit did not reach statistical significance, possibly because patients' judgments about benefit are closely tied to the information and communication they receive from health professionals. This finding suggests that, in Indonesia, social and interpersonal factors carry more weight than demographic characteristics in determining acceptance of cancer navigation programs.

Comparison with Global Studies

Globally, patient navigation has been shown to reduce cancer disparities, improve treatment adherence, and enhance patient satisfaction (Rodriguez et al., 2021). However, acceptance varies across settings, depending on sociocultural contexts. In Africa, for example, navigation programs face challenges due to limited resources and stigma, yet family and community involvement remain strong predictors of acceptance (Adebayo et al., 2020). In contrast, in high-income countries, factors like education, income, and insurance coverage are more prominent predictors (Peterson et al., 2022). Our findings contribute to this body of literature by emphasizing that in Indonesia, family and communication outweigh socioeconomic variables. This highlights the importance of adapting navigation programs to local cultural dynamics. Whereas in the West health literacy campaigns may focus on individual empowerment, in Indonesia and similar contexts, strategies must integrate family and collective decision-making.

Implications for Practice and Policy

The results have practical implications for hospitals and policymakers. First, family-centered approaches should be institutionalized within navigation programs, such as involving relatives in consultations, providing family counseling, and establishing caregiver support groups. Second, health education modules must be embedded into navigation services, ensuring patients and families understand the purpose, process, and benefits of the program. Third, communication training for healthcare providers is essential, focusing on empathy, cultural competence, and clarity. Policymakers should also recognize navigation as an essential part of Indonesia's National Cancer Control Plan, integrating it into universal health coverage strategies. Funding mechanisms could support navigator training, patient education materials, and family engagement activities. By doing so, navigation programs can be scaled up across Indonesia's diverse regions, increasing acceptance and effectiveness.

CONCLUSION

This study demonstrates that family support, patient knowledge, and healthcare provider communication quality are the main factors influencing patient acceptance of the cancer navigation program at RSUP Dr. M. Djamil Padang. Among these, family support proved to be the most dominant predictor, showing that patients with strong family involvement were more than three times more likely to accept navigation services. Knowledge and communication also played a significant role, as better-informed patients and those who experienced clear, empathetic communication from healthcare providers showed higher acceptance rates. In contrast, socio-demographic factors such as age, gender, education, and perceived benefits were not significantly associated with acceptance, indicating that social and interpersonal dimensions are more decisive in this context. These findings suggest that effective cancer navigation in Indonesia requires strengthening family-centered care, integrating structured patient education to improve health literacy, and enhancing communication competencies among healthcare providers. Focusing on these three key elements will increase patient acceptance, improve continuity of care, and support the success of the national cancer control program.

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