

The Relationship between Knowledge and Attitudes with the Intention to Perform Basic Palliative Care among Nurses at Community Health Centers in Jambi City, 2026

Baihaki*

Universitas Padjadjaran,
INDONESIA

Chandra Isabella Hostanida Purba

Universitas Padjadjaran,
INDONESIA

Tuti Pahria

Universitas Padjadjaran,
INDONESIA

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Abstract

Background: Palliative care aims to improve the quality of life of patients and families facing life-threatening illnesses. Nurses in community health centers (Puskesmas) play an essential role in providing basic palliative care. However, gaps in knowledge, attitudes, and intention to provide palliative care remain.

Aims: This study aimed to determine the relationship between knowledge, attitudes, and intention to provide palliative care among nurses in community health centers in Jambi City.

Methods: A quantitative, cross-sectional study was conducted in 20 community health centers in Jambi City. Total sampling was used, yielding a sample of 175 nurses. Data were collected using the Palliative Care Quiz for Nurses (PCQN-I), Frommelt Attitudes Toward Care of the Dying (FATCOD-B), and Nurses' Willingness to Engage in Palliative Care Scale (NWEPCS). Data were analyzed using descriptive statistics and the chi-square test.

Results: Most participants were female (93.1%), aged 36–45 years (38.3%), held a Diploma III in Nursing (64.6%), worked in cross-cluster teams (33.1%), and had 0–10 years of experience (44.6%). None had received palliative care training. Most nurses had low knowledge (81.7%), while positive attitudes (56.0%) and intentions (56.6%) were predominant. Knowledge ($p = 0.001$) and attitudes ($p = 0.044$) were significantly associated with intention to provide basic palliative care.

Conclusion: Despite positive attitudes and intentions, nurses' knowledge of palliative care was generally low. Basic palliative care training is therefore needed to strengthen knowledge and optimize nurses' positive attitudes and intentions.

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INTRODUCTION

Palliative care is an approach aimed at improving the quality of life of patients and their families facing life-threatening illnesses through the prevention and relief of suffering (World Health Organization, 2021). The global need for this service is increasing rapidly alongside population aging and the surge in non-communicable Diseases (NCDs), including cancer (KPKN, 2019). The World Health Organization (2020) estimates that 56.8 million people require palliative care; however, in Indonesia, the fulfillment rate remains low, at approximately 0.35% (Connor, 2020; Kemenkes RI, 2023b). In Jambi Province, the prevalence of NCDs such as hypertension, stroke, asthma, and cervical cancer shows an increasing trend, demanding comprehensive healthcare service readiness (BKPK, 2023).

Responding to this matter, the Indonesian government, through Health Law No. 17 of 2023 and the transformation of primary care, mandates community health centers to integrate palliative care services into every life cycle (Mensesneg RI, 2023). Puskesmas, through the Primary Care

* Corresponding author:

Baihaki, Universitas Padjadjaran, INDONESIA. ✉ baihaki24001@mail.unpad.ac.id

Integration (ILP) strategy utilizing a cluster approach where the adult and elderly clusters hold a strategic role, must provide palliative care both within and outside the facility (Kemenkes RI, 2023a). As the first point of contact, Puskesmas must organize home-based palliative care to reach patients in their working areas (Saleh et al., 2008).

Nurses have a vital role within the palliative team, encompassing pain/symptom management, psychosocial support, and patient advocacy (Hagan et al., 2018; Suprpto, 2022). However, the success of this service heavily depends on nurses' competence. Adequate knowledge forms the primary foundation for identifying patient needs and providing quality care (Altarawneh et al., 2023). Nevertheless, studies indicate that a lack of knowledge often constitutes the main barrier to palliative care implementation in the field (Indarwati et al., 2020).

Beyond knowledge, the affective aspect of attitude plays an important role as a facilitator in shaping behavioral intention (Chu et al., 2022). Positive attitudes, empathy, and respect for individual uniqueness are essential when dealing with terminal conditions (Sinulingga et al., 2024). However, some findings show that nurses' attitudes toward palliative care are not yet optimal, influenced by workload and patient complexity (Rafiee et al., 2024; Subih & Nofal, 2022). Nurses require strong psychological and behavioral readiness to take appropriate palliative care actions (Persson et al., 2022).

According to the Theory of Planned Behavior, intention is the primary determinant of behavior, influenced by attitude and knowledge (Ajzen & Fishbein, 2005). In the nursing context, intention reflects a professional commitment to actively engage in palliative care. Yet, an intention-behavior gap exists due to external constraints such as lack of support and resources (Sheeran & Webb, 2016). Structured education and training have proven effective in enhancing knowledge, improving attitudes, and strengthening nurses' intention to provide end-of-life care (Go & Kang, 2024; Hao et al., 2021).

In Jambi City, although Integration of Primary Care (ILP) has been mandated through Mayoral Decree No. 306 of 2024, the implementation of palliative care services at the community health center (Puskesmas) level has not been optimal. Preliminary studies indicate that patients and their families still require comprehensive services, including physical examinations, home care education, nutritional support, symptom relief, pain management, and psychological and social support. However, these services are not supported by adequate system readiness and resources, as evidenced by the lack of palliative care or outpatient clinics, the absence of a palliative care team, the absence of standard operating procedures (SOPs) for palliative care, and limited human resources. Furthermore, most nurses have never received basic palliative care training in primary care and even admitted to not having received adequate palliative care materials during their formal education.

This situation demonstrates that policy implementation requires not only organizational support but also individual nurse readiness, reflected in their knowledge, attitudes, and intentions to provide palliative care. Therefore, measuring intention is an important initial predictive step before evaluating actual clinical behavior, considering that palliative care services at Jambi City community health centers are still in the early stages of implementation and are not yet supported by standardized SOPs. To date, data on the relationship between nurses' knowledge, attitudes, and intentions in providing basic palliative care at community health centers in Jambi City are still limited. Therefore, this study aims to analyze the relationship between knowledge and attitudes with the intention to perform basic palliative care among nurses at community health centers in the Jambi City region in 2026.

METHOD

This study employed a quantitative design with a cross-sectional approach. Data on the independent variables (knowledge and attitudes) and the dependent variable (intention to perform basic palliative care) were measured simultaneously at a single point in time. The conceptual framework of the study refers to the Theory of Planned Behavior (Ajzen & Fishbein, 2005). In this theory, an individual's intention to perform a behavior is influenced by attitude toward the behavior, subjective norms, and perceived behavioral control. These three domains are influenced by background factors, including individual, social, and informational factors. The research was

conducted in 20 community health centers in Jambi City, with the entire nursing population as the target. A sample of 175 nurses was obtained using the total sampling technique.

Data collection was carried out from February 14-28, 2026, after obtaining ethical approval from the Research Ethics Committee of the Poltekkes Kemenkes Jambi with letter number LB.02.06/025/2026 dated February 12, 2026, and a research permit from the Jambi City Health Office with letter number 400.14.5.4/112/DINKES/II/2016 dated February 2, 2026.

Univariate analysis was used to describe the frequency distribution of all research variables. Meanwhile, bivariate analysis used the chi-square test to analyze the relationship between knowledge and attitudes with nurses' intention to perform basic palliative care at community health centers.

The instrument to measure knowledge was the Indonesian version of the Palliative Care Quiz for Nursing (PCQN-I), adapted by Hertanti et al. (2021). This instrument has proven valid and reliable for healthcare providers in Puskesmas, with a content validity index of 0.97 for relevance and 0.93 for clarity, and a Kuder-Richardson 20 (KR-20) reliability value of 0.71. To measure attitudes, the Indonesian version of The Frommelt Attitudes Toward Care of The Dying Care Form B questionnaire (FATCOD-B-I), adapted by A'la (2016), was used. This instrument has a reliability value of 0.680 and item validity of 0.651–0.713 via Pearson correlation (total range -0.278 to 0.544), with a Bartlett test $p = 0.00$ and KMO of 0.639, meeting the requirements for confirmatory factor analysis (CFA). Meanwhile, the intention variable was measured using the Nurses' Willingness to Engage in Palliative Care Scale (NWEPCS), based on the Theory of Planned Behavior (TPB) by Pourshahri et al. (2025), consisting of 8 items. Because the original version of this instrument is in English, the researcher performed a translation process into Indonesian, which was validated online by three nursing experts from Universitas Padjadjaran after obtaining written consent.

Content validity analysis of the instrument was conducted quantitatively using the Content Validity Index (CVI) method. Three experts were asked to assess the relevance of each statement item using a 4-point Likert scale (1 = not relevant, 2 = fairly relevant, 3 = relevant, 4 = very relevant). Statements with an average score <3 were categorized as invalid and revised based on expert feedback. The assessment results showed an overall CVI value for all items of 3.5, thus the instrument was declared valid. In addition to quantitative assessment, the experts also provided qualitative feedback regarding grammar and substance, which was then used by the researcher as a basis for revision to produce a usable final instrument.

RESULTS AND DISCUSSION

Results

The distribution of respondent data based on age, gender, education level, work team, length of service, and palliative care training can be seen in Table 2.

Table 1. Frequency Distribution of Respondent Characteristics

Variable	Category	<i>f</i>	%
Age	Late Adolescent 17-25 years	4	2.3
	Early Adult 26-35 years	33	18.9
	Late Adult 36-45 years	67	38.3
	Early Elderly 46-55 years	58	33.1
	Elderly > 55 years	13	7.4
Gender	Female	163	93.1
	Male	12	6.9
Education Level	D3 Nursing	113	64.6
	Ners	62	35.4
Work Team	Cluster 1	24	13.7
	Cluster 2	24	13.7
	Cluster 3	41	23.4
	Cluster 4	28	16.0
	Cross cluster 5	58	33.1

Variable	Category	<i>f</i>	%
Work Tenure	0-10 years	78	44.6
	11-20 years	57	32.6
	> 20 years	40	22.9
Palliative Training	Never	175	100.0

Based on Table 1, of the 175 respondents studied, the majority were in the 36-45 year age group (38.3%), predominantly female (93.1%). Among the 175 respondents, 38.3% were aged 36-45 years, 93.1% were female, 64.6% held a Diploma III in Nursing, 33.1% worked in cross-cluster teams, 44.6% had 0-10 years of work experience, and all respondents had never attended palliative care training (100%).

Table 2. Frequency Distribution of Knowledge, Attitude & Intention

Variable	Category	<i>f</i>	%
Knowledge	Good	13	7.4
	Moderate	19	10.9
	Poor	143	81.7
Attitude	Good	98	56.0
	Less Good	77	44.0
Intention	Good	99	56.6
	Less Good	76	43.4

Based on Table 2, of the 175 respondents studied, the majority had a poor level of knowledge regarding providing basic palliative care, totaling 143 respondents (81.7%). Meanwhile, the majority of respondents showed a good attitude toward palliative care, totaling 98 people (56%), and 99 respondents (56.6%) had a good intention to provide such care.

Table 3. Frequency Distribution of Respondent Answers According to Nurses' Knowledge Domains for Providing Palliative Care

Knowledge Questions	Answer			
	Correct		Incorrect	
	<i>f</i>	%	<i>f</i>	%
Philosophy and principles of palliative care	87	49.8	88	50.2
Pain and symptom management	41	23.2	134	76.8
Psychosocial and spiritual care	46	26.3	129	73.7

Based on Table 3, it was found that of the 175 respondents studied, the highest misunderstanding was on questions regarding pain and symptom management, namely 134 respondents (76.8%). Furthermore, on questions regarding psychosocial and spiritual care, 129 respondents (73.7%) answered incorrectly. Meanwhile, for the philosophy and principles of palliative care, 88 respondents (50.2%) gave incorrect answers.

Table 4. The Relationship Between Knowledge and Intention to Perform Basic Palliative Care Among Nurses

Knowledge	Intention				Total	χ^2	P-Value
	Good		Less Good				
	<i>f</i>	%	<i>f</i>	%			
Good	8	7.4	5	5.6	13	18.396	0.001
Moderate	2	10.7	17	8.3	19		
Poor	89	80.9	54	62.1	143		
Total	99	99.0	76	76.0	175		

Based on Table 4, it was found that of the 175 respondents studied, the majority had poor knowledge and less good intention, totaling 54 respondents (62.1%). Furthermore, statistical testing found a p-value of 0.001, thus H0 is rejected; therefore, it can be concluded that there is a

significant relationship between knowledge and the intention to perform basic palliative care. This indicates that knowledge can be considered a contributing factor in the formation of this intention.

Table 5. The Relationship Between Attitude and Intention to Perform Basic Palliative Care Among Nurses

Attitude among Nurses							
Attitude	Intention				Total	χ^2	P-Value
	Good		Less Good				
	f	%	f	%			
Good	62	55.4	36	42.6	98	4.062	0.044
Less Good	37	43.6	40	33.4	77		
Total	99	99.0	76	76.0	175		

Based on Table 5, it was found that of the 175 respondents studied, the majority had good attitudes and good intentions, totaling 62 respondents (55.4%). Furthermore, the statistical test results found a p-value of 0.044, thus H_0 is rejected; therefore, it can be concluded that there is a significant relationship between attitude and the intention to perform basic palliative care. This shows that attitude plays an important role in influencing nurses' intention to perform basic palliative care services.

Discussion

Overview of Knowledge

The results of this study indicate that the majority of respondents (81.7%) have a poor level of knowledge regarding palliative care. This finding suggests a significant gap in Puskesmas nurses' understanding that may affect the implementation of palliative care. This result aligns with research by [Siagian & Perangin-angin \(2020\)](#), who found that the majority of nurses (99.17%) had low knowledge, and is supported by findings from [Krisnandari & Rahyanti \(2022\)](#) at 88.8% and [Kassa et al. \(2014\)](#) at 69.5%. The consistency of these various research findings strengthens the indication that nurses' knowledge about palliative care is still relatively low. Theoretically, knowledge is the result of the human sensory process influenced by experience. In the clinical context, cognitive knowledge is an important domain that shapes action ([Nurmala et al., 2018](#)). Without adequate knowledge, one does not have a basis for making decisions and determining actions regarding the problems faced ([Irwan, 2017](#)). Low knowledge directly impacts nurses' ability to identify patient needs and provide quality nursing care ([Altarawneh et al., 2023](#)). This often becomes a major barrier to providing palliative care, especially in the end-of-life phase ([Suprpto, 2022](#)).

A deeper analysis of the questionnaire statements shows that the highest misunderstanding relates to pain and symptom management (76.8%), followed by aspects of psychosocial and spiritual care (73.7%), and the basic philosophy of palliative care (50.2%). This data confirm that nurses' understanding is still very limited in holistic aspects. In fact, healthcare professionals in primary facilities are required to have early identification skills, pain/symptom management, and the ability to handle psychosocial and spiritual care aspects ([Haroen et al., 2024](#)). Enhancing this knowledge is crucial for assessing patient needs to improve their quality of life ([Siagian & Perangin-angin, 2020](#)). This knowledge gap can be addressed through strengthening clinical competence and self-capacity building. Palliative care training provided for two weeks has proven effective in significantly increasing nurses' knowledge ([Haroen et al., 2023](#)). In addition, continuous courses or training can broaden nurses' insights into providing palliative care ([Adriaansen et al., 2005](#); [Sulaeman, 2016](#)). However, the organization of such training must consider various implementation barriers in the field so that the results achieved are more optimal ([Indarwati et al., 2020](#); [Rafiee et al., 2024](#)). Besides training factors, internal variables such as age, length of work, and experience attending training can increase nurses' knowledge ([Gasper et al., 2025](#); [Widowati et al., 2020](#)).

In the digital era, advances in communication technology can also be utilized to improve service effectiveness ([Parellangi, 2018](#)). Accessible interactive digital media and social support can

assist nurses in providing practical education to patients and families (Purba et al., 2026). Ultimately, a comprehensive understanding of pain/symptom management, communication skills, early care planning, and strategies for overcoming anxiety when caring for patients in the terminal phase is essential to broaden nurses' insights in providing palliative care (Haroen et al., 2024; Suprpto, 2022).

Overview of Attitude

The results showed that the majority of respondents (56.0%) had a good attitude toward providing palliative care. This finding indicates that the majority of nurses have a positive attitude supporting the provision of palliative care at Puskesmas. This result aligns with research by Liu et al. (2025), which found that community health nurses tend to have a positive attitude toward palliative care. A similar phenomenon was also found by Izah et al. (2020), in which 52.4% of nurses showed a positive attitude toward preparing terminal cancer patients for death. More broadly, this finding aligns with studies by Anteneh et al. (2016) and Kassa et al. (2014), which recorded figures of 53.4% and 76% of nurses having good attitudes toward palliative care, respectively. The similarity of these research results strengthens the finding that despite cultural and facility differences, humanitarian values remain the dominant foundation for nurses. As healthcare professionals closest to patients, nurses act as trusted information sources and primary emotional support providers (Purba, 2025). Theoretically, attitude is an internal evaluation formed from a combination of beliefs and feelings toward a specific behavior (Ajzen, 1991). Attitude also reflects an unobservable response to a health stimulus before being realized in concrete action (A'la, 2016).

The tendency for positive attitudes in this study is heavily influenced by demographic factors, where the majority of respondents were in the 36–45 year age group with more than 10 years of work experience. More than 10 years of experience statistically increases healthcare workers' confidence and ability to apply palliative principles (Mann et al., 2019). Length of work experience has been shown to influence nurses' basic knowledge of palliative care, their attitudes, and their behavior in providing such care for the better (Harden et al., 2017). Nurses with positive attitudes are expected to be able to perform effective pain management, provide psychosocial support, and prioritize empathy by viewing patients as unique individuals influenced by sociocultural aspects (Hayek et al., 2025; Izah et al., 2020; Suprpto, 2022).

However, the results of this study also imply a challenge, as 44.0% of nurses remain in the less good attitude category. This shows that even if cognitive aspects may be fulfilled, belief in self-efficacy in facing the emotional burden of terminal patients is not yet adequate. These barriers are often associated with limited resources, lack of knowledge, lack of specialized training, and psychological anxiety (Suprpto, 2022). Therefore, there is an urgency to enhance nurses' capacity through continuous training that focuses not only on knowledge but also on forming professional attitudes through career advancement (Widowati et al., 2020). As a strategic step, nurses need to develop communication skills grounded in mutual trust and respect (Gasper et al., 2025). Additionally, strengthening emotional intelligence is crucial so that nurses can understand the natural reactions of patients in the terminal phase and those of grieving families. The ability to adapt to emotionally charged situations will be the key to successful implementation of palliative care in the Puskesmas environment (Suprpto, 2022).

Overview of Intention

The results showed that the majority of respondents (56.6%) had a good intention to perform basic palliative care. This finding reflects the readiness and willingness of nurses in Jambi City community health centers to provide services focused on improving patients' quality of life. This result aligns with a study by Wang et al. (2025), which found that psychological factors such as attitude, subjective norms, and behavioral control directly positively influence an individual's intention to provide assistance. Theoretically, intention is the most proximal determinant of a behavior. Within the framework of the Theory of Planned Behavior (TPB), intention is assumed to represent the motivation that directs an individual to act; the stronger the individual's intention, the greater the likelihood the behavior will be realized (Ajzen, 1991). Also defines intention as an

individual's plan or resolution to carry out behavior consistent with their attitudes (Irwan, 2017). This intention does not stand alone but is influenced by three main pillars: attitude toward the behavior, subjective norms (social pressure), and perceived behavioral control (perception of ease or difficulty) (Ajzen & Fishbein, 2005).

In the context of this study, nurses' knowledge acts as a background factor influencing individual beliefs. Adequate knowledge helps nurses evaluate the benefits of the behavior, which then shapes the instrumental and experiential dimensions of attitude (Ajzen & Driver, 1992). Moreover, past behavior and information obtained by nurses serve as feedback influencing future intentions (Ajzen & Fishbein, 2005). Conversely, subjective norms and self-efficacy exert an impact, both directly and indirectly, on practice through reinforcing intention (Xu et al., 2023). Although the majority have good intentions, 43.4% of nurses possess less good intentions. This condition indicates a gap between intention and behavioral implementation. This gap is often triggered by low internal motivation and external constraints, such as lack of support and limited resources (Faries, 2016; Sheeran & Webb, 2016). At the primary care level, real challenges faced include lack of clinical competence, limited regulation of pain medications (such as morphine), lack of communication and team coordination, and financing issues for home care (Haroen et al., 2024).

To address these challenges, structured education and training are essential. Research conducted in Korea and China shows that training not only improves technical knowledge but also enhances nurses' empathy competence and attitudes toward dying patients (Go & Kang, 2024; Hao et al., 2021). Additionally, healthcare facility management must create a supportive environment through clear and integrated palliative care policies, even if currently still merged within the non-communicable disease prevention and control program (P2PTM) (Ardiyanti et al., 2023). Although nurses have good intentions, reinforcement is still needed through continuous education and a supportive work environment. Individuals who feel they lack skills tend to anticipate failure and develop negative attitudes (Ajzen & Fishbein, 2005). Once individuals acquire knowledge, they will begin to assess and consider before ultimately adopting an attitude toward a behavior (Induniasih & Ratna, 2021).

The Relationship between Knowledge and Intention to Perform Basic Palliative Care among Nurses

The results of bivariate analysis showed that the majority of respondents had poor knowledge and less good intention, totaling 62.1%. Furthermore, statistical testing found a p-value of 0.001, thus, H_0 is rejected; therefore, it can be concluded that there is a significant relationship between knowledge and the intention to perform basic palliative care. This indicates that knowledge can be considered a contributing factor in the formation of this intention. Theoretically, this finding is highly relevant to the Theory of Planned Behavior (TPB). In this framework, intention is the main predictor of behavior, influenced by attitude, subjective norms, and perceived behavioral control. Knowledge acts as a background factor that informs an individual's beliefs and evaluations regarding a specific behavior (Ajzen & Fishbein, 2005). Thus, the better the knowledge nurses possess regarding the benefits and procedures of palliative care, the more positive the intention formed. This aligns with the opinions of a Nurmala et al. (2018) that the cognitive domain is an important domain underlying the formation of a person's actions.

Nurses in Puskesmas are at the frontline, interacting directly with terminal patients and their families. Their role includes pain/symptom management, empathic communication, and advocacy (Gasper et al., 2025; Hagan et al., 2018). On the other hand, families also need support encompassing information needs, environment, service access, and psychological-emotional aspects (Purba et al., 2022). However, limited knowledge becomes a barrier to identifying patient needs and providing appropriate and quality nursing care (Altarawneh et al., 2023). Although the relationship between knowledge and intention is proven significant, this study also emphasizes the importance of being aware of the intention-behavior gap. Sometimes, good intentions do not materialize into actual practice due to external constraints such as limited resources, minimal organizational support, and inadequate policies (Faries, 2016; Sheeran & Webb, 2016). In Indonesia, palliative care in primary services still faces challenges related to infrastructure and the availability of evidence-based standard guidelines (Hertanti et al., 2021; Wilson et al., 2024).

Given that knowledge is an intervenable factor, structured training becomes the primary solution. Various studies show that intensive training, workshops, and specialized certifications significantly improve nurses' technical and psychological readiness ([Haroen et al., 2023](#); [Sitanggang et al., 2025](#); [Wilson et al., 2016](#)). Integrating palliative care content into higher education curricula is also necessary to close the competency gap among future professionals ([Agustina et al., 2025](#)).

For this reason, enhancing the intention of nurses in Jambi City community health centers requires synergy between continuous education and systemic support from health management. Systematic training not only improves clinical skills in pain management but also builds nurses' mental readiness to provide a better quality of life for patients in the end-of-life phase ([Kemenkes RI, 2023b](#); [Kim & Flieger, 2023](#)).

The Relationship between Attitude and Intention to Perform Basic Palliative Care among Nurses

The results of bivariate analysis showed that the majority of respondents had good attitudes and good intentions, totaling 55.4%. Furthermore, the statistical test results found a p-value of 0.044, thus H_0 is rejected; therefore, it can be concluded that there is a significant relationship between attitude and the intention to perform basic palliative care. This shows that attitude plays an important role in influencing nurses' intention to perform basic palliative care services. Theoretically, attitude is a positive or negative evaluation formed from a combination of beliefs (behavioral beliefs) and feelings toward a specific behavior ([Ajzen, 1991](#)). In the health context, attitude is an unobservable response to a stimulus, which then provides an assessment before ultimately forming an intention to act ([Irwan, 2017](#)). The results of this study align with the framework of the Theory of Planned Behavior (TPB), which states that an individual's intention is determined by the belief that the behavior will lead to the desired outcome ([Ajzen & Fishbein, 2005](#)).

Nurses' positive attitudes are manifested through effective pain management, reducing of psychological distress, emotional support, and spiritual care at the patient's bedside ([Hayek et al., 2025](#)). Nurses are expected to show empathy by viewing the patient as a unique individual and considering sociocultural factors such as ethnicity and religion in understanding the patient's suffering ([Izah et al., 2020](#); [Sinulingga et al., 2024](#)). A positive attitude not only improves the quality of life of terminal patients but also prepares them to face the end-of-life phase with dignity. Although generally showing a positive trend, the data indicate that 76.0% of nurses with less good attitudes do not yet have a strong intention. This suggests that the existing positive attitude is not necessarily converted into an intention to act if not supported by self-confidence and emotional competence. Interestingly, heavy workload and complex patient characteristics in experienced nurses can sometimes make their attitudes less optimal compared to junior nurses ([Subih & Nofal, 2022](#)). Therefore, developing self-concept, independence, and social interaction skills is essential to build nurses' self-confidence ([Hurlock, 1991](#)).

Nurses' negative attitudes often become a serious barrier in terminal care ([Suprpto, 2022](#)). Factors such as lack of specialized training, limited staffing, and minimal policy support in primary care are major obstacles ([Kim & Flieger, 2023](#); [Mardiansyah et al., 2022](#)), and nurse shortages ([Hill et al., 2018](#)) remain major barriers to optimizing care. To address this, structured education and training are necessary to raise awareness, enhance empathy competence, and improve nurses' attitudes toward end-of-life patients ([Go & Kang, 2024](#); [Hao et al., 2021](#)). In conclusion, strengthening positive attitudes through increased experience and supportive work environments is crucial to encourage the formation of stronger intentions. Therapeutic communication based on mutual trust, along with support from Puskesmas management, will ensure nurses can adapt in emotionally challenging situations, enabling maximal palliative care delivery ([Gasper et al., 2025](#); [Widowati et al., 2020](#)).

Implications

Theoretically, the findings of this study provide a scientific contribution by reinforcing the relevance of the Theory of Planned Behavior (TPB). Empirically, it proves that knowledge as a background factor and nurses' attitudes are significantly associated with the formation of intention to perform basic palliative care. Furthermore, this study successfully identified a specific cognitive

gap, where the greatest lack of understanding among Puskesmas nurses lies in the areas of pain management and psychosocial-spiritual support. This implies the importance of designing and fulfilling structured and massive basic palliative care training programs at the primary care level.

On the other hand, the high percentages of positive attitudes (56.0%) and positive intentions (56.6%) demonstrated among nurses represent a significant emotional and motivational asset for the success of the Primary Service Integration (ILP) program. Therefore, healthcare facility management must capitalize on this positive potential by providing policy support, such as clear regulations, evidence-based standard operating procedures (SOPs), and policies ensuring the availability of medical supplies (including access to analgesics), and by implementing basic palliative care training to further enhance these positive intentions and attitudes.

Research contribution

This research makes a significant contribution by describing the levels of knowledge, attitude, and intention of nurses at Jambi City community health centers, while also demonstrating a significant relationship between knowledge and attitude and nurses' intention to perform basic palliative care. These findings strengthen the application of the Theory of Planned Behavior, which explains that knowledge and attitude play a role in forming intention. Additionally, the results of this study can be used by policymakers as a strategic evaluation instrument to accelerate the integration of community-based palliative care services in Indonesia.

Limitations

Although this study offers significant strengths by providing an empirical foundation for applying the Theory of Planned Behavior (TPB) to palliative care within the primary healthcare setting (community health centers/puskesmas) and by demonstrating that knowledge and attitudes are statistically significant determinants of nurses' intentions to provide basic palliative care it also has several limitations. First, the study was limited to measuring intentions and did not evaluate nurses' actual behavior in delivering palliative care; consequently, the "intention-behavior gap" phenomenon could not be objectively assessed. Second, the research focused primarily on internal individual factors, specifically knowledge and attitudes, while external factors such as organizational support, infrastructure availability, resources, workload, and service policies at the community health centers were not deeply explored as moderator or mediator variables. Third, the use of self-reported questionnaires carries a risk of information bias, as respondents might provide answers that do not fully reflect their actual conditions or behaviors. Furthermore, respondent bias, including social desirability bias, may have occurred, as respondents tend to provide answers perceived as more positive or aligned with social expectations. Fourth, the cross-sectional data collection design captures relationships between variables at only a single point in time; thus, the temporal nature of the relationships among knowledge, attitudes, and intentions cannot be established, and the findings cannot be interpreted as demonstrating a causal effect. Therefore, longitudinal or interventional studies are needed to evaluate changes in nurses' knowledge, attitudes, intentions, and actual behaviors following palliative care interventions or training.

Suggestions

The results of the study show that the majority of nurses possess positive intentions and attitudes; however, a significant gap exists in knowledge regarding palliative care. Therefore, interventions are needed in the form of basic palliative care training for Puskesmas nurses or through strengthening literacy regarding basic palliative care.

CONCLUSION

Based on the research results, the majority of nurses at community health centers in Jambi City have insufficient knowledge regarding palliative care, although most demonstrated positive attitudes and intentions to provide basic palliative care. Bivariate analysis showed significant associations of knowledge ($p = 0.001$) and attitude ($p = 0.044$) with nurses' intentions. These findings indicate that increasing knowledge through basic palliative care training and

strengthening literacy are necessary steps to support nurses' readiness and competence in providing quality palliative care in primary healthcare facilities.

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AUTHOR CONTRIBUTION STATEMENT

The author is fully responsible for the entire cycle of this research. The author's contributions include conceptualization and research design, obtaining permits and ethical clearance, field data collection, statistical analysis and interpretation of univariate and bivariate data, and drafting and finalizing the manuscript.

AI DISCLOSURE STATEMENT

The author used AI technology (Google Gemini) during the drafting of this manuscript to improve grammar, refine sentence structure, and translate. After using this tool, the author reviewed and edited the manuscript thoroughly as needed and takes full responsibility for the content of this publication.

CONFLICTS OF INTEREST

The author declares that there are no conflicts of interest, whether financial, personal, or professional, with any party that could influence the objectivity, execution, and results of this research.

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