

The Influence of Doctors' Knowledge and Attitudes on the Behavior of Filling Out the Cause of Death

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Abstract

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The Death Certificate Form is an essential component of medical records, serving clinical, administrative, legal, and policy-making purposes. Incomplete or inaccurate completion of this form may affect mortality statistics, insurance claims, and hospital management decisions. This study aimed to analyze the influence of doctors' knowledge and attitudes on their behavior in completing the cause of death form at Permata Cirebon Hospital. This quantitative study employed a cross-sectional design and was conducted from January to February 2025. The study population consisted of all inpatient attending physicians at Permata Cirebon Hospital, with a total sample of 45 doctors selected using a total sampling technique. Data were collected through observation checklists and structured questionnaires. Statistical analysis included descriptive analysis, classical assumption tests, and multiple linear regression. The results showed that most respondents had good knowledge (75.6%) and positive attitudes (71.1%) toward completing the cause of death form. However, multivariate analysis indicated that knowledge ($p = 0.307$) and attitude ($p = 0.095$) did not have a significant effect on completion behavior, either partially or simultaneously ($F = 1.654$; $p = 0.204$). These findings suggest that factors beyond knowledge and attitude, such as workload, documentation systems, training, and organizational support, may play a more dominant role in influencing doctors' behavior. Strengthening institutional support and documentation systems is recommended to improve the completeness of death certificate forms.

INTRODUCTION

Health information is crucial for patients, health facilities, and government interests. Integrated and timely health data can be used by hospital management and government officials in health surveillance, policy-making, and decision-making (Ikawati et al., 2025) . Law No. 44 of 2009 concerning Hospitals stipulates that every hospital must record and report on all of its activities (*Law No. 44 of 2009 concerning Hospitals*, 2009) . This includes medical record services. Minister of Health Regulation No. 24 of 2022 concerning Medical Records states that every health facility is required to maintain medical records in order to improve the quality of health services (Indonesian Ministry of Health, 2022). Medical records are a collection of files containing patient records, ranging from patient identity data to clinical data, when the patient is being treated at a health facility. (Indonesian Ministry of Health, 2022)

The Medical Certificate of Cause of Death (SMPK) is a form in the medical record that contains the conditions and diagnoses related to the sequence of events leading to a person's death at a health facility. This form has two parts, namely parts I and II. Part I contains records of the sequence of conditions (diagnoses) that directly caused death. Part II concerns conditions/diagnoses that are not directly related to part I but scientifically contribute to worsening the condition recorded in part I, thereby causing death (WHO, 2010). This form plays an important role in collecting statistical data on deaths and for several other administrative purposes, such as processing death certificates, insurance claims, or inheritance. In addition, the data in the form is very important for policy evaluation, determination, and development of more effective health policies. (Riza Suci Ernaman Putri & Widya Putri, 2025)

Human behavior is an action or activity performed by an individual that can be observed directly or indirectly. According to Lawrence Green, there are three factors that influence behavior, namely predisposing factors, enabling factors, and reinforcing factors. Predisposing factors are factors that facilitate a person's behavior, including knowledge, attitudes, beliefs, values, social norms, culture, and sociodemographics. Meanwhile, supporting factors exist in the form of the physical environment, such as the availability of supporting facilities and infrastructure (Notoadmodjo S, 2014). Meanwhile, motivating factors are manifested in the attitudes and behaviors of other individuals or groups (Pakpahan & Et.al, 2021). Knowledge is the result of knowing that occurs after a person perceives a particular object (Notoadmojo, 2012) . There are six levels of knowledge in the cognitive domain, namely:

1. **Know**, which means the process of recalling material that has been learned previously. Therefore, this level of knowledge is the most basic level of knowledge. The process of recalling is triggered by stimuli obtained through several questions, such as being asked to mention, describe, define, and state various things that have been learned.
2. **Comprehension** is defined as an individual's ability to explain and interpret an object or material broadly and correctly.
3. **Application**: An individual is able to use the material that has been learned and understood in real situations or conditions, such as the use of laws, formulas, methods, principles, and so on.
4. **Analysis** is the ability of a person to look at a problem and find a solution based on knowledge that is still related to one another. The use of verbs, such as describing, distinguishing, separating, grouping, and so on, is one way to determine a person's analytical ability.
5. **Synthesis** is the ability to formulate new ideas from various sources of knowledge that have interrelated topics. In other words, synthesis is the ability to connect several pieces of knowledge or information and then produce new knowledge with logical reasoning.
6. **Evaluation** is the ability to assess a material or object so that the results obtained can be used as conclusions or considerations. Assessments are made based on self-determined criteria or existing criteria such as social norms. (Notoadmodjo, 2007; Utomo, 2016)

Attitude is a reaction or result of a particular stimulus that involves opinions and emotions. Attitude can be defined as a person's readiness to react to an object in a certain way and as a positive or negative response that crystallizes as a potential reaction to the object (Notoadmojo, 2003, 2012). Behavior is the result of various experiences and interactions between humans and their environment, which are manifested in the form of knowledge, attitudes, and practices/actions (Utomo, 2016).

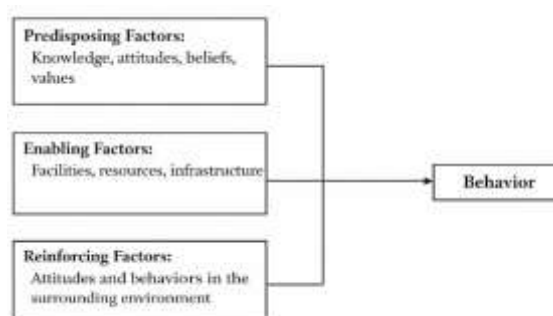


Figure1 Lawrence Green's Theory
Source: Notoadmodjo S, 2014

The form is filled out by paramedics using a ballpoint pen, capital letters, and firmly so that it can penetrate through to the 5th sheet. The form is filled out by filling in the boxes, circling, and writing in the columns provided. The SKK and FKPK forms must be signed by the examining doctor, complete with their name and position, and stamped by the health facility stating that the person has died. They must also be signed by the receiving party, either the family or a representative of the family of the deceased, to receive the form from the hospital or health center (Ministry of Health, 2016) (Ministry of Health of the Republic of Indonesia, 2019). The completion of the FKPK, which contains the cause of death, follows the applicable guidelines based on the ICD-10 Vol. 2 guidelines (Ministry of Health, 2016; WHO, 2010).

The failure to complete the cause of death form will impact many hospital administrative processes and interests, such as the delay in death insurance claims, payment of patient health claims, and also affect the accuracy of the mortality statistics produced, which will impact management in evaluating and making decisions (Arief Syahputra et al., 2016; Nadia Nathania, Henky, Ida Bagus Alit2, 2022).

A preliminary study conducted at Permata Cirebon Hospital found that one method of recording deaths is by filling out a Death Certificate Form and a Cause of Death Form, which lists the sequence of causes of death for a person who has died in the hospital. The Cause of Death Form contains items such as the patient's name, medical record number, diagnosis, Parts I and II, which explain the sequence of causes of death, and a special column for deaths caused by illness. A sample of 10 Cause of Death Forms from September 2023 found that 0% of the Cause of Death Forms had been filled out. On the other hand, information about the incident and the patient's diagnosis at the time of death is only written on the Integrated Patient Progress Note (CPPT) form, and the diagnosis determining the cause of death is determined from the main diagnosis written by the doctor on the Medical Resume form. Therefore, this is an interesting topic for further research with the title "The Influence of Doctors' Knowledge and Attitudes on the Behavior of Filling Out Death Cause Forms at Permata Cirebon Hospital."

METHOD

This research is quantitative in nature, using multiple linear regression statistical analysis to measure the simultaneous influence of two or more independent variables on one dependent variable. (Sugiyono, 2019) This study was conducted at Permata Cirebon Hospital in January-February 2025 with a population and sample of 45 doctors responsible for inpatients who had active service permits at Permata Cirebon Hospital. Sampling was done using the saturated sampling technique, where the entire population was used as the research sample. The data collection technique in this study was

done using the observation method. The instruments used were checklists and questionnaires. A validity test was conducted to determine the validity of an instrument (questionnaire) by correlating the scores of each variable with the total score. The variable instrument was considered valid if the variable score was significantly correlated with the total score (Dr. Drs. Susanto Priyo Hastono, 2016). The inclusion criteria for this study were general patients (aged >6 days) who died during hospitalization and DPJPs who treated general patients who died during hospitalization. The exclusion criteria for this study were DOA patients, IGD patients who died < 6 hours, perinatal inpatients, doctors and/or specialists who were not inpatient DPJPs, DPJPs who treated perinatal inpatients who died, and dental specialists & subspecialists. This study has obtained ethical approval in the form of an Ethical Review Approval Letter Number: 0925-01.132/DPKE-KEP/FINAL-EA/UEU/II/2025 from the Research Ethics Committee of Esa Unggul University.

RESULTS AND DISCUSSION

Respondent Characteristics

Table 1 Respondent Characteristics

Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Male	34	71
	Female	13	29
	Total	45	100
Age	25–35 years	3	7
	36–45 years old	17	38
	>45 years old	25	56
	Total	45	100
Occupation	Specialist Doctor	43	96
	Subspecialist Physician	2	4
	Total	45	100
Education	Bachelor's Degree	38	84.4
	Master's Degree	7	15.6
	Total	45	100

Based on Table 1, the majority of respondents were male, totaling 34 people (71%). Based on age group, most respondents were aged >45 years, totaling 25 people (56%). In terms of occupation, almost all respondents were specialist doctors, totaling 43 people (96%). Based on their highest level of education, the majority of respondents had a bachelor's degree, totaling 38 people (84.4%).

Descriptive Analysis of Research Variables

Descriptive analysis was conducted to describe the characteristics of the data for each research variable, which included the knowledge, attitudes, and behaviors of doctors in filling out death certificates at Permata Cirebon Hospital. The results of the descriptive analysis are presented in Table 2 below.

Table 2 Descriptive Analysis of Research Variables

Variable	Mean	Median	Std. Deviation	Variance	Min	Max
Knowledge	78.89	80	9.101	82.828	60	90
Attitude	37.62	37	2.386	5.695	31	42
Behavior	35.09	35	1,743	3,037	32	38

Based on the table above, the knowledge variable has an average value of 78.89 with a standard deviation of 9.101. The attitude variable has an average value of 37.62 with a standard deviation of 2.386. The behavior variable has an average value of 35.09 with a standard deviation of 1.743.

Distribution of Research Variables Knowledge

Table 3 Frequency Distribution of Knowledge

Category	Frequency (n)	Percentage
Good	34	75.6
Poor	11	24.4
Total	45	100

Based on the table above, it is known that most respondents have a good level of knowledge about filling out death certificates, namely 34 people (75.6%), while respondents with a low level of knowledge numbered 11 people (24.4%).

Attitude

Table 4 Frequency Distribution of Attitudes

Category	Frequency	Percentage
Positive	32	71.1
Negative	13	28.9

The majority of respondents had a positive attitude toward filling out death certificates, namely 32 people (71.1%), while respondents with a negative attitude numbered 13 people (28.9%).

Behavior

Table 5 Frequency Distribution Table of Behavior

Category	Frequency (n)	Percentage
Good	28	62.2
Poor	17	37.8
Total	45	100

Meanwhile, based on Table 5, 28 respondents (62.2%) demonstrated good behavior in filling out death certificates, while 17 respondents (37.8%) still exhibited poor behavior.

Statistical Test Results

Statistical tests were conducted to determine the relationship and influence between the variables of doctors' knowledge and attitudes toward the behavior of filling out death certificates at Permata Cirebon Hospital. The analysis included classical assumption tests (normality, multicollinearity, and heteroscedasticity tests) and multiple linear regression tests.

Normality Test

The normality test was conducted to determine whether the residual data in the regression model was normally distributed. The test was performed using the Kolmogorov-Smirnov method.

Table 6 Kolmogorov-Smirnov Normality Test

N	Statistik Uji	Sig.
45	0,11	0,2

Based on Table 6, a significance value of 0.200 (> 0.05) was obtained, indicating that the residual data is normally distributed, thus fulfilling the normality assumption.

Multicollinearity Test

Table 7 Multicollinearity Test

Variable	Calculated t	t table	Sig
Knowledge	-1.033	2.018	0.307

Attitude	1,707	2,018	0.095
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Based on Table 7, the tolerance values of all variables are greater than 0.10 and the VIF values are less than 10, indicating that there is no multicollinearity between the independent variables.

Heteroscedasticity Test

Table 8 Test Table Glejser Test		
Variable	t	Sig
Knowledge	-1.033	0.307
Attitude	1.707	0.095

Based on Table 8, the significance value of each variable is greater than 0.05, indicating that there is no heteroscedasticity in the regression model.

Multivariate Analysis

Hypothesis Testing

1) F Test (Simultaneous)

The F test was conducted to determine the simultaneous effect of knowledge and attitude on death certificate filling behavior.

Table 9 Table F Test (Simultaneous)

df	Calculated F	Sig
2;42	1.654	0.204

Based on the table above, the calculated F value is 1.654 with a significance value of 0.204 ($p > 0.05$), which indicates that knowledge and attitude simultaneously do not significantly affect the behavior of filling out death certificates.

Table 10 t-test (Partial)

Variable	Calculated t	t table	Sig
Knowledge	-1.033	2.018	0.307
Attitude	1,707	2,018	0.095

From the table above, the significance value of the knowledge variable is 0.307 ($p > 0.05$) and the attitude variable is 0.095 ($p > 0.05$), which indicates that partially, knowledge and attitude do not have a significant effect on the behavior of filling out death certificates.

Multiple Linear Regression Equation Test

Table 11 Multiple Linear Regression Equation

Variable	Coefficient B	Std. Error	Beta
Constant	33.422	1.694	–
Knowledge	-0.013	0.013	-0.266
Attitude	0.082	0.048	0.44

Based on the regression analysis results, the following regression equation was obtained:

$$Y = 33.422 - 0.013X_1 + 0.082X_2$$

Explanation:

Y = Behavior of filling out the cause of death form

X₁ = Doctor's knowledge

X₂ = Physician attitude

The regression coefficient for knowledge of -0.013 indicates that each one-unit increase in knowledge will decrease the behavior score by 0.013 units. The regression coefficient for attitude of 0.082 indicates that each one-unit increase in attitude will increase the behavior score by 0.082 units.

Coefficient of Determination Test

Table 12 Test of Coefficient of Determination

Model	R	R Square	Adjusted R Square	Standard Error of Estimate
1	0.272	0.074	0.03	1.717

The table above shows an R Square value of 0.074, indicating that the knowledge and attitude variables can explain 7.4% of the variation in death certificate filling behavior, while 92.6% is influenced by other factors outside the research model. The Adjusted R Square value of 0.030 shows that after adjusting for the number of independent variables, the contribution of knowledge and attitude to behavior is 3.0%.

The results of the study show that although the majority of respondents have good knowledge and positive attitudes, these variables do not significantly influence the behavior of filling out death certificates.

The Role of Knowledge in Death Certificate Completion Behavior

Knowledge is an important foundation for healthcare workers in carrying out clinical and administrative tasks, including filling out death certificates. A number of studies show that doctors' low level of knowledge regarding instructions for filling out death certificates often affects the accuracy and completeness of these documents. Research conducted by Muhammad Husni found that knowledge does not significantly affect compliance with medical resume writing (Husni, 2018). These results reinforce the idea that good knowledge does not always correlate directly with actual behavior, as behavior is also influenced by other factors such as motivation, attitude, and organizational support. Another study shows that increasing knowledge through training can improve the accuracy of death certificate completion, with a significant reduction in technical errors after intensive training. However, this study found that knowledge alone is not enough to significantly influence death certificate completion behavior. This confirms that knowledge must be accompanied by other factors such as contextual training, experience, and adequate documentation system support. This evidence is in line with Lawrence Green's theory in the PRECEDE-PROCEED Model, which emphasizes that behavior is not only influenced by predisposing factors (knowledge) but also by enabling factors (facilities, policies) and reinforcing factors (support from superiors or peers) (Notoadmojo, 2012; Windi Chusniah Rachmawati, S, KM., 2019).

The Influence of Attitudes on the Behavior of Filling Out Death Certificates

The professional attitudes of doctors are related to how they view the importance of completing medical documents, including death certificates, as part of their clinical and legal responsibilities. Several studies indicate that the attitudes of healthcare workers can be significant predictors of clinical reporting behavior, as positive attitudes can reinforce the intention to perform administrative tasks well. (Husni, 2018)

However, in this study, doctors' attitudes toward filling out forms did not show a significant influence on their filling behavior. This is consistent with some findings from other studies, in which *knowledge* and *attitude* do not always correlate strongly with *practice*, especially when external factors such as documentation systems, training, and work motivation are inadequate.

Knowledge, Attitude, and Behavior in Death Certificate Documentation

The *knowledge-attitude-practice (KAP)* model states that knowledge influences attitudes, and attitudes ultimately influence behavior. However, empirical evidence shows that this relationship is not always linear. Several studies in the context of health service documentation show that contextual

factors (e.g., training, work motivation, support systems, and hospital policies) often serve as powerful mediators between knowledge/attitudes and professional behavior.

A study in the field of medical records reveals that although healthcare workers have good knowledge of clinical documentation, actual behavior in practice is still influenced by factors such as motivation, training, and the availability of adequate documentation tools or systems, thereby affecting the final results of documentation practices (Ghalavand et al., 2024).

Implications of Research Findings

The findings of this study indicate a gap between doctors' knowledge and attitudes and their behavior regarding the completion of death certificates. This gap indicates that there is a need for reinforcement strategies that focus not only on increasing knowledge or changing attitudes, but also on providing regular training, user-friendly documentation systems, and adequate organizational support.

The implementation of support systems such as integrated standard training, clear guidelines for filling out certificates, and information systems that facilitate documentation can be solutions to improve filling behavior as recommended by intervention studies.

CONCLUSIONS AND RECOMMENDATIONS

This study aims to analyze the influence of doctors' knowledge and attitudes on their behavior in filling out death certificates at Permata Cirebon Hospital. Based on the results of the F test, it shows that knowledge and attitudes simultaneously do not have a significant effect on the behavior of filling out death certificates in sequence. The significance values of knowledge and attitudes are ($p = 0.307 > 0.05$ and $p = 0.072 > 0.05$). ly, doctors' knowledge and attitudes did not have a significant effect on the behavior of filling out death certificates (calculated $F = 2.334 < F \text{ table } 3.22$; sig. = $0.110 > 0.05$). This indicates that other factors beyond knowledge and attitude, such as workload, availability of time, supervision, and hospital policy support, also influence doctors' behavior. Thus, it can be concluded that doctors' knowledge and attitude are not yet dominant factors influencing the behavior of filling out death certificates at Permata Cirebon Hospital.

Based on the research results, several recommendations can be given as follows:

1. For hospitals, it is recommended to conduct regular training and socialization regarding the procedures for filling out death certificates in accordance with applicable standards and regulations.
2. For hospital management, it is necessary to strengthen the monitoring and evaluation system regarding the completeness and accuracy of death certificate completion.
3. For doctors, it is expected that they can improve their accuracy and compliance in filling out death certificates as part of their professional and legal responsibilities.
4. For future researchers, it is recommended to examine other factors that may potentially influence the behavior of filling out death certificates, such as work motivation, workload, hospital information systems, and management policies.

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