



Determinants of Nurses' Ethical Decision-Making in Acute Care: A case study of Thika level V hospital

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Abstract

BACKGROUND

Nurses in acute care settings often face complex ethical challenges, requiring them to make rapid and skilled decisions despite having limited clinical support. Moreover, novice nurses with limited experience frequently adopt linear decision-making approaches, which focus on single tasks and problems. However, in critical care environments, these decisions could significantly affect patient outcomes. Therefore, this study aimed to identify determinants influencing ethical decision-making among nurses working in the intensive care unit, renal unit, and emergency unit of Thika level V hospital, in Kiambu County, Kenya.

METHODOLOGY

Adopting an analytical cross-sectional design with quantitative and qualitative methods through a census approach, we recruited 36 registered nurses working in critical care settings of Thika Level V hospital. A self-administered questionnaire and a key informant interview guide were instruments used to collect quantitative and qualitative data, respectively. We analysed the quantitative data using SPSS version 26.0 for descriptive and inferential statistics and thematically analysed qualitative data using NVivo version 21.2. The Mantel-Haenszel chi-square test was used in the inferential analysis with $P < 0.05$ considered statistically significant. The confidence interval was set at 95%.

RESULTS

The majority of nurses (75%) demonstrated low adherence to the ethical decision-making process. Work-related factors did not significantly influence adherence levels. Emerging thematic areas of ethical issues were three namely, resource allocation, paediatric care, and challenges affecting patient care in acute settings.

CONCLUSION AND RECOMMENDATIONS

Most nurses in Thika Level V Hospital's acute care settings exhibited low adherence to ethical decision-making processes and work-related factors did not significantly affect their adherence. The ethical dilemmas the nurses faced were: the allocation of resources, handling of paediatric patients and ethical issues affecting care. To address these gaps, healthcare institutions should provide targeted support to nurses for navigating ethical challenges. We also recommend further research, inter-institutional collaborations, and dissemination of best practices to enhance ethical decision-making in critical care environments.

Keywords: Ethical Decision-Making, Nursing, Acute Care, Thika Level V, Determinants

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Introduction

Nursing's fundamental mission is to deliver high-quality healthcare that maintains and improves patient health (1). While the advancements in science and technology have

improved healthcare in many aspects, they have made patient care more complex; thus apportioning nurses more decision-making responsibilities (2). Ethics is an important aspect that should be observed by all professionals in



healthcare. For nurses, ethical decision-making shapes their problem-solving skills and considerably influences the quality of care they offer patients (3). As the healthcare systems evolve, nurses face increasingly complex ethical challenges, particularly in acute care settings where decisions often carry serious and immediate consequences.

In acute care environments, where the stakes are high and patient conditions can rapidly change, ethical decision-making becomes more crucial. Hence, adherence to ethical frameworks ensures that decisions are both clinically sound and morally defensible. However, several factors can affect a nurse's conformity to these frameworks, including workload, staffing levels, institutional support, and access to ethical training. These elements significantly contribute to how nurses react to ethical dilemmas (4).

Nibbelink and Brewer in their comprehensive literature review identified that organizational culture, education, and experience are central to influencing nurses' decision-making processes (5). Their study emphasized that essentially, the institutional environment should be supportive and that adequate training was necessary for effective ethical decision-making. Likewise, an excerpt from the book 'Nursing Ethical Considerations' by Haddad et al highlights the place of ethics in healthcare stating that healthcare workers need to identify ethical dilemmas and make judgments based on their values while adhering to statutory laws. This emphasis on the need for proper ethical training and institutional support to navigate rising complex situations effectively (6). Furthermore, Arra and colleagues examined factors influencing nurses' clinical decision-making in emergency departments and found that workload and staffing levels directly affected nurses' ability to make sound clinical decisions, including their ability to make ethical decisions (7). These studies together point out the critical role played by institutional support, sufficient staffing, practical workloads,

and comprehensive ethical training in enabling nurses to navigate ethical dilemmas effectively, in these acute care settings

In resource-limited settings such as those experienced in Thika Level 5 Hospital, challenges posed by ethical decision-making are exacerbated. As observed in other similar acute care units, which often encounter high patient loads, limited resources, and insufficient ethical training, these challenges may result in compromised adherence to ethical standards. Mageto *et al.* (8) examining the utilization of the nursing process among nurses at a referral hospital in Kenya, highlighted that hospitals face hindrances of full implementation of the nursing processes, such as excessive workloads, understaffing, and lack of equipment. They continue to report that inadequate training programs impacted nurse performance, highlighting the need for more effective training interventions (9).

Nurses' adherence to ethical decision-making processes in these contexts must be studied to uncover the challenges and factors influencing their ethical decision-making practices. Thus this study sought to identify determinants influencing ethical decision-making among nurses working in the intensive care, renal, and emergency care units of Thika level V hospital, in Kiambu County, Kenya. The findings may provide insights for improving ethical decision-making and strengthening ethical practices in similar healthcare settings.

Methodology

Study design, area and population

This study employed an analytical cross-sectional mixed-method approach with both quantitative and qualitative aspects. It was conducted at the Thika level 5 hospital situated on General Kago Road in Thika town, Kiambu County, Kenya. The acute care settings included were the accident and emergency, intensive care and renal units of the hospital. The study participants were licensed nurses working in the

acute care settings within the healthcare facility, employed on permanent basis. Nurses in these units who were physically ill at the time of data collection were excluded.

Sample size calculation

The study sample size was calculated using Fisher's formula:

$$n = N / (1 + N(e)^2) \quad n = N / (1 + N(e)^2)$$

Where:

n = required sample size

N = total population size

e = margin of error (expressed as a decimal. For a confidence interval of 95%, the error margin is 0.05 for a 5% margin of error). Given that N was 36 nurses, and a confidence level of 95% (C = 0.95), the required sample size was computed as:

$$n = 36 / (1 + 36(0.05)^2) \quad n = 36 / (1 + 36(0.05)^2)$$

$$n = 36 / (1 + 0.095) \quad n = 36 / (1 + 0.095)$$

$$n = 36 / 1.095 \quad n = 36 / 1.095$$

$$n \approx 33.03$$

Finally, the study sample size was 36, following a 10% increase to account for anticipated participant nonresponse.

Sampling procedure

Given the small number of nursing staff in the targeted units, the census method was employed to select study participants for the quantitative part of the study. However, only the nursing officers in charge and their deputies from the three units were purposively sampled for participation in the qualitative arm.

Data collection tools

Data collection instruments were a semi-structured questionnaire, a key informant interview guide and an observational checklist. The checklist was used to determine the level of adherence to the ethical decision-making process.

Validation of tools was accomplished through review by the subject matter experts to assess the extent to which the content of the tools accurately addressed the variables of interest(10).

Necessary revisions were made based on the recommendations of the experts.

To establish the reliability of the instruments, a pre-test study was conducted in Machakos level 5 hospital. The questionnaire was administered to 10% of the study sample size (Four nurses). The Cronbach's Alpha values for the entire construct indicated a high level of internal consistency, with all values above 0.70.

Data collection procedure

The quantitative data was gathered through a self-administered questionnaire and an observational checklist used to determine the level of adherence to the ethical decision-making process. There were seven steps in the ethical decision-making process and each step had scores, which summed up to 10. Each nurse participant was presented with two identical case scenarios that placed them in a dilemma and were asked to apply the seven steps of decision-making. Based on their performance at each step, an average score from two enumerators was apportioned to the nurse. A score of more than 80% represented a high level of adherence while scoring less or equal to 80% represented low adherence to the ethical decision-making process (11).

Qualitative data was collected using key informant interviews among the nurses in-charge and their deputies. Responses were recorded using a tape recorder, as the interviewer took notes.

Data analysis and presentation

Quantitative data was analysed by descriptive and inferential statistics using SPSS version 26. Mantehezel chi-square tested the association between independent and dependent variables. Quantitative findings were presented in frequency tables and pie charts. The qualitative analysis was accomplished through transcription and thematic analysis using NVIVO software to generate codes, themes and sub-themes. The data was presented using illustrative quotes. Statistical

significance was set at $P < 0.05$, with a 95% confidence interval (CI).

Ethical considerations

Approval to conduct the study was obtained from Amref's Ethics and Scientific Review Commission (ref: AMREF _ESRC P805/2020) and the National Commission for Science and Technology and Innovation (NACOSTI ref no: 530003). Permissions were sought from the authorities at TL5H and the Kiambu County government. Written informed consent was requested from all participants. Confidentiality of the collected data and the privacy of the respondents were ensured.

Results

Response rate

A response rate of 77.7% was achieved since 28 out of the 36 questionnaires distributed were filled and returned. This was deemed adequate for the study's objectives.

Socio-demographic characteristics of the study participants

The majority (46.4%, $n=13$) of the participants were from the intensive care unit. There were 8 (28.6%) from the renal unit and 7 (25%) from the accident and emergency department. The sample consisted mostly of females, with 46.4% ($n=13$) aged between 36–45 years. Over two-thirds (67.9%) held a Kenya Registered Community Health Nurse (KRCHN) qualification, and more than half (55.6%) held the NO1 position, while 25.9% held the SNO position. Most participants (67.9%) had higher diplomas, and 46.4% had 7-10 years of experience. Table 1.

Level of adherence to ethical decision-making process

The maximum total score for each respondent was 10 was used to compute the percentage score on adherence to the ethical decision-making process.

Table 1:
Socio-Demographic Characteristics

Variables	Category	Frequency	Percentage (%)
Work Station	Emergency	7	25
	Renal	8	28.6
	ICU	13	46.4
Age group	26 – 35	5	17.9
	36 – 45	13	46.4
	46 – 55	10	35.7
Gender	Male	3	10.7
	Female	25	89.3
Level of Education	Diploma	2	7.1
	Higher Diploma	18	64.3
	Bachelor's degree	7	25
	Masters' degree	1	3.6
Nursing Qualification	MScN	1	3.6
	BScN	7	25
	KRCHN	19	67.9
	KRN	1	3.6
Level of appointment	CNO	2	7.4
	SNO	7	25.9
	NO 1	15	55.6
	NO III	3	11.1
Years of Experience	< 3	3	10.7
	3 - 6	7	25
	7 - 10	13	46.4
	>10	5	17.9

The percentage adherence score was then dichotomized with a cut-off of 80 %. A score of more than 80% and less or equal to 80% represented high and low levels of adherence to the ethical decision-making process, respectively (11). The majority (75%, n=21) of the respondents reported a low score on level of adherence, with only 25% (n=7) scoring on high levels of adherence (Figure 1).

Adherence to ethical principles in ethical decision-making

Nearly to two-thirds of the respondents (57%) indicated adhering to the principle of non-

maleficence, to a moderate extent. More than two-thirds (64.3%) indicated adhering to the principle of justice, to a great extent. A majority (67.7%) of the respondents indicated adhering to the principle of beneficence, to a great extent. More than half of the respondents (53.6%) indicated adhering to the principle of autonomy, to a moderate extent. More than half of the respondents (55.6%) indicated adhering to the principle of fidelity, to a great extent (Table 2).

The Likert scale had scores of 1 – 3, where 1 = No extent, 2 = Moderate extent, and 3 = Great extent.

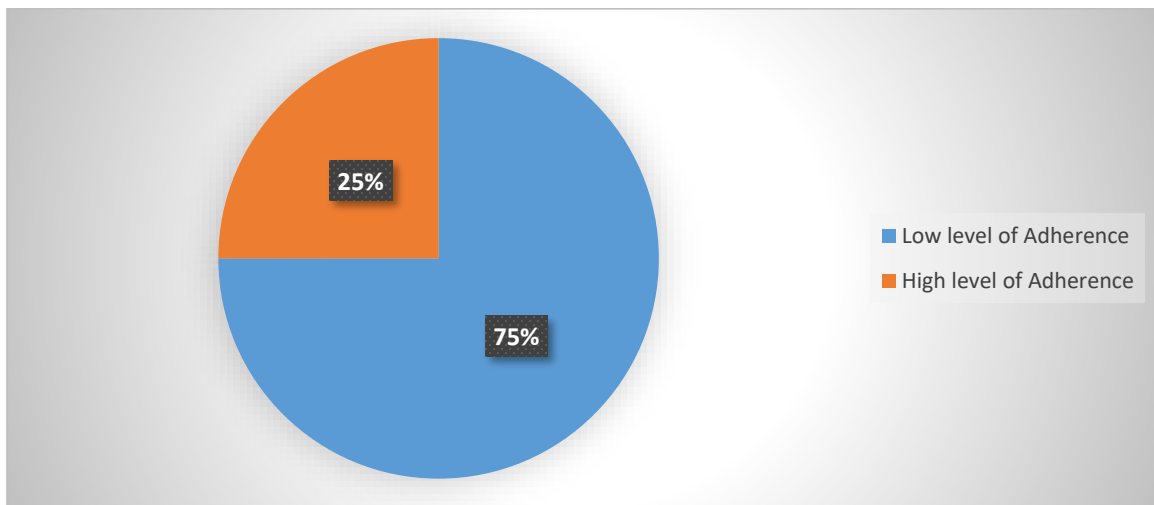


Figure 1:
Level of Adherence to Ethical Decision-Making Process

Table 2:
Ethical Principles in Ethical Decision-making

Ethical Principle	Level of Adherence	Frequency	Per cent
Non-Maleficence	Moderate Extent	16	57.1
	Great Extent	12	42.9
Justice	No Extent	1	3.6
	Moderate Extent	9	32.1
Beneficence	Great Extent	18	64.3
	Moderate Extent	9	32.1
Autonomy	Great Extent	19	67.9
	No Extent	1	3.6
Fidelity	Moderate Extent	15	53.6
	Great Extent	12	42.9
	No Extent	3	11.1
	Moderate Extent	9	33.3
	Great Extent	15	55.6

The total maximum score for each respondent was 15. This was used to compute the percentage score on adherence to ethical principles for each of the participants observed. The percentage adherence score was then dichotomized with a cut-off of 80 %. A score of more than 80% and

less or equal to 80% represented adherence and no adherence to ethical principles, respectively (11). Twenty-five per cent (n=7) of the respondents adhered while a large proportion (75%, n=21) did not adhere to the ethical principles. Figure 2.

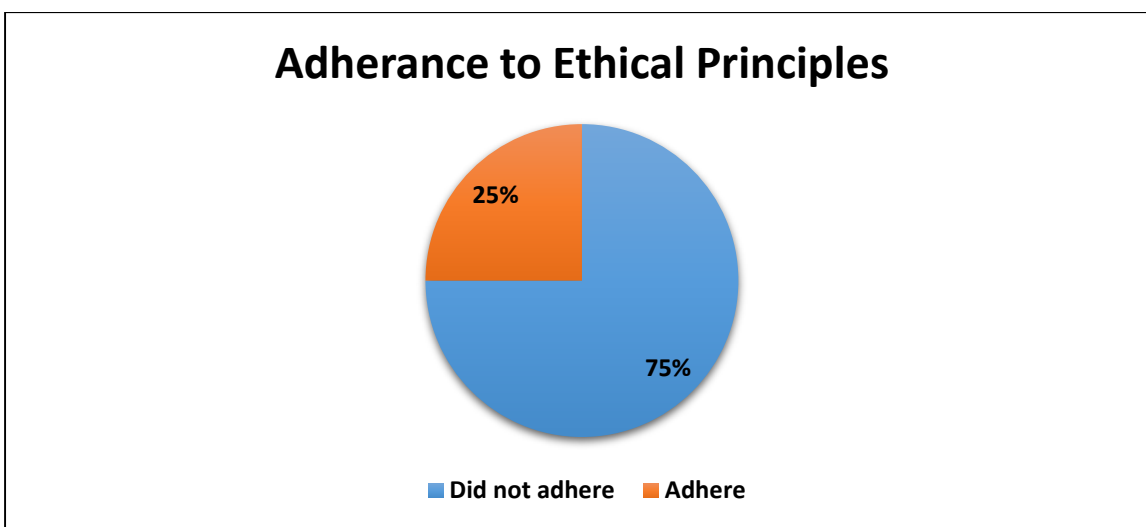


Figure 2:
Adherence to Ethical Principles in Ethical Decision-making

Table 3:
Work-Related Factors that Influence the Level of Adherence to Ethical Decision-Making

Variable		Level of adherence			OR	95%CI		P-value
		Low	High	Total		Low	Upper	
Working environment	Satisfied	12	4	16	1	0.178	5.632	1
	Not satisfied	9	3	12				
	Total	21	7	28				
Supportive organizational culture	Satisfied	7	2	9	1.25	1.92	8.144	1
	Not satisfied	14	5	19				
	Total	21	7	28				
Patients-Nurse relationship	Satisfied	11	6	17	1.83	0.019	1.799	0.191
	Not satisfied	10	1	11				
	Total	21	7	28				
Nurse-Employer relationship	Satisfied	8	2	10	1.538	0.239	9.896	1
	Not satisfied	13	5	18				
	Total	21	7	28				
Ethical behavior recognized	Satisfied	6	1	7	2.4	0.236	24.399	0.639
	Not satisfied	15	6	21				
	Total	21	7	28				
Code of conduct signed at hiring/ appointment	Satisfied	13	2	15	4.063	0.632	26.132	0.198
	Not satisfied	8	5	13				
	Total	21	7	28				

Work-related factors influencing the level of adherence

Mantehezel's chi-square test was used to determine the association between work factors and adherence to ethical principles in decision-making. None of the work-related factors showed a statistically significant relationship with adherence to ethical principles in decision-making (Table 3).

Ethical dilemmas experienced by nurses working in acute care settings

Qualitative data was gathered from key informant interviews carried out among the nurses in charge and their deputies, in the study site. Three themes emerged as follows:

Theme I: Ethical issues dealing with allocation of resources

Two sub-themes emerged under this theme: ineffective prioritization of limited resources and understaffing due to shortage.

Ineffective prioritization of limited resources.

The informants reported their inability to fairly allocate the limited resources, especially machines and supplies, to all patients:

“Our department is equipped with only five haemodialysis machines and we conduct two dialysis sessions per day. A problem may arise if one machine breaks down meaning that some patients will have to miss a session” KI 2.

“Well.... In most cases, we have shortage of machines forcing us not to admit patients. As for the consumables, the hospital provides but sometimes when there is shortage we request relatives to buy” KI3.

The challenge in allocating staff due to shortage. Respondent felt that they faced a challenge in allocating staff due to understaffing. One respondent said:

“When we get casualties following mass accidents, sometimes we feel overwhelmed by the workload owing to the big number of casualties vis a vis the staff. In this case, the administration mobilizes staff from other departments to assist. This may not be easy to achieve because of the generalized staffing shortage and sometimes we may get only one or two qualified nurses to assist us.” KI 1

Table 4:

Other Work-Related Factors that Influence the Level of Adherence to Ethical Decision-making

		Level of adherence			Fischer's	DF	P-value
		Low	High	Total			
Rewards based on work experience	No extent	11	5	16	4.243	2	S 0.104
	Moderate extent	10	1	11			
	Great extent	0	1	1			
	Total	21	7	28			
Staff involved in decision-making	No extent	2	2	4	3.21	2	0.144
	Moderate extent	13	5	18			
	Great extent	6	0	6			
	Total	21	7	28			
Code of ethics use by nurses	No extent	4	1	5	0.39	2	1
	Moderate extent	10	3	13			
	Great extent	7	3	10			
	Total	21	7	28			
Staff inclusion in decision-making	No extent	2	2	4	3.21	2	0.144
	Moderate extent	13	5	18			
	Great extent	6	0	6			
	Total	21	7	28			



Theme II: Ethical dilemmas in handling paediatric patients

Consent for treatment interventions. There were challenges in obtaining consent for treatment, especially for children whose parents were seen as rigid and uncooperative, exemplified by these excerpts:

"...Ok, considering this is a minor, we do involve the parents in every step of treatment and other interventions requiring consent. A dilemma occurs, for example, if parents belong to religions which don't recommend blood transfusion. In this case the senior medical officer signs the consent for transfusion regardless of the parents decision" KI 3.

"When handling paediatric patients we seek consent from the parents/guardians. Some of them may refuse to give consent for certain interventions but we do try to convince them on the importance of compliance" KI 1

Abandonment of children. One of the interviewees lamented as follows:

"Others end up abandoning the children in the department forcing us to involve the law enforcement officers to deal with such cases" KI 1

Theme III: Ethical issues affecting care

Three subthemes emerged: prolonged dying process, withdrawal of treatment and withholding treatment.

Prolonged dying process. This was one of the ethical dilemmas affecting care as indicated by this sentiment:

"Sometimes a very elderly person may become dependent on the ventilator even without prospects of recovery. A dilemma occurs when a young person who may benefit from ICU admission misses a ventilator forcing the hospital to refer the case elsewhere, for lack of an ICU bed because we cannot save a life by losing another ..." KI 3.

Two sub-themes that emerged from this theme were: consent for treatment interventions and abandonment of children.

Withdrawal of treatment. Patients' inability to afford medical expenses coupled with inadequate hospital equipment posed a risk of withdrawing treatment.

"Some patients may not afford treatment so we are forced to stop the medication. Other times relatives may request for withdrawal of treatment if the prognosis is poor." KI 1

"...our patients are scheduled to undertake two dialysis sessions per week. If one of the five machines happens to break down, then we may find it difficult to decide which patient should miss the session." KI 3

Withholding treatment. Violent patients and cultural/religious beliefs were among the key reasons for nurses to withhold treatment. One respondent voiced:

"Sometimes patients become violent; we restrain them in the beds and prescribed sedative drugs are administered. When they are sedated we do withhold other drugs they are supposed to take..."

"... some patients who require to be transfused with blood, refuse that treatment owing to their religious background which do not support blood transfusion" KI 1

Discussion

The study found that the majority of respondents had a low level of adherence to the ethical decision-making process, only 25% demonstrated a high level of adherence to the ethical decision-making process while 75% exhibited low levels. Most participants reported a high level of adherence to ethical principles, especially in terms of non-maleficence, justice, beneficence, autonomy, and fidelity. This may reflect the complex nature of healthcare decisions where balancing benefits and potential harm can be challenging. It resonates with the emphasis on the ethical principles of non-maleficence,



beneficence, discrimination, and justice when making judgements in resource allocation (12).

The healthcare profession evidently presents tough ethical decision-making challenges as both nurses and physicians contend with difficulty in making end-of-life decisions, patient care and social conflicts (13). This study highlighted the ethical complexities nurses face regarding paediatric patients' autonomy (14). Dilemmas, where parental decisions have to be overridden, are particularly more difficult for nurses to address, as reported in the present study.

The study examined various work-related factors, including the working environment, organizational culture, relationships with patients and colleagues, and resource availability. Interestingly, none of these factors showed a statistically significant relationship with adherence to ethical principles. This finding suggests that adherence to ethical principles in decision-making may be influenced by other factors not assessed in this study. Further research is needed to explore other factors influencing adherence to ethical principles, as this study found no significant relationships with the assessed work-related factors.

A high percentage of participants felt that their institution recognized and rewarded ethical behaviours. This positive perception could contribute to maintaining high ethical standards among nurses, as it may encourage them to uphold ethical codes despite the challenges they face in the workplace. Similarly, Bordbar *et al.*, notes that even with heavy workloads, nurses felt that they adhered to ethical codes (15); suggesting that fostering a supportive work environment could help nurses maintain ethical practices even when working under pressure.

Reported dilemmas on the allocation of resources emanated, for instance, from the inability to allocate limited resources. This underscores the difficulties nurses face when there is a shortage of crucial resources such as

haemodialysis machines and dialysis supplies. These challenges often lead to difficult decisions about prioritizing patients and allocating resources equitably. This resonates with a study conducted in Ethiopia, which highlighted the ethical dilemmas faced by healthcare workers in allocating limited resources; underscoring the need for policies and strategies to ensure fair allocation of resources (16).

The present study reports staffing shortages and a lack of pertinent skills among staff. This highlights a critical gap, especially during emergencies or cases requiring specialized skills. Unfortunately, understaffing is a known challenge in healthcare, leading to compromised patient care and overburdening of the available staff (17).

Unavoidable referrals of patients requiring life-saving care such as dialysis, were also reported in the current study. The decision to refer patients to other facilities due to a lack of essential equipment aligns with the ethical principle of beneficence. In this case, the practice is commendable since under beneficence, healthcare providers aim to provide the best care possible for patients despite constraints (18).

Financial constraints in affording treatment and supplies were cited in this study as a hindrance to accessing appropriate care, hence infringing on the code of justice. Faced with this ethical dilemma, healthcare workers must decide whether to provide or withhold healthcare (19). Likewise, withdrawing treatment due to financial constraints or poor prognosis, as observed in this study, is a common ethical dilemma among health facilities in developing countries like Kenya. It is, therefore, crucial to involve patients, families, and healthcare providers in decisions about treatment withdrawal or cessation, while considering the patient's best interests and autonomy (20).

Simultaneously, the challenge of patients refusing treatment based on religious beliefs also underscores the importance of

respecting patients' cultural and religious values while ensuring appropriate care. However, such concepts are controversial, as supported by Akdeniz *et al.*, who articulated that withholding treatment, euthanasia assisted suicide, as well as palliative care and pain treatment, remain controversial and are prohibited in several nations (22).

Finally, the findings speak of obtaining parental consent as a critical challenge in paediatric care, especially when it conflicts with religious beliefs. In some cases, nurses are forced to provide consent for minors to receive treatment, yet legal and ethical dilemmas can arise when the healthcare provider's judgment differs from the parents' decisions. However, the healthcare provider is charged with the responsibility of safeguarding the rights and well-being of the paediatric patients, including obtaining consent on their behalf, when parents are unavailable or uncooperative. The involvement of law enforcement officers in cases of abandoned children highlights the complex interplay between healthcare and legal systems (21).

Study Limitations

This study focused on nurses in acute care settings at TL5H, limiting the generalizability of the findings. It mainly examined ethical principles in decision-making, without considering other influencing factors. The reliance on self-reported data may impact the accuracy of the findings. With a sample size of 35 nurses, the study's scope was limited. Future research with larger, more diverse samples are needed to broaden the understanding of the topic.

Conclusion

Most nurses in Thika Level V Hospital's acute care settings exhibited low adherence to ethical decision-making processes and work-related factors did not significantly affect their adherence. The ethical dilemmas the nurses faced were: the allocation of resources, handling of

paediatric patients and ethical issues affecting care.

Recommendations

We recommend that hospitals should implement continuous medical education featuring case studies to prepare staff for real-world ethical challenges and dilemmas. Additionally, regular ethical audits should be performed to identify and address recurring ethical challenges. Teamwork collaborations among doctors, nurses, social workers and law enforcement will aid in effectively managing some ethical dilemmas. Policies should be put in place to address complex issues such as parental consent especially when it harms the child. Policies on withdrawal of treatment against medical advice should also be in place to guide health workers.

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List of Acronyms

ICN	Intensive Care Nurse
ICU	Intensive Care Unit
CCU	Critical Care Unit
KECN	Kenya Enrolled Community Health Nurse
KNH	Kenyatta National Hospital
KRCHN	Kenya Registered Community Health Nurse
KRM	Kenya Registered Midwife
KRN	Kenyan Registered Nurse
TL5H	Thika Level 5 Hospital

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Conflict of interest. None to declare

Availability of data statement. Data is available upon reasonable request



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