

Effect of an Educational Program on Critical Care Nurses' Attitudes toward Ethical and Legal Aspects: A Quasi-Experimental Study

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ABSTRACT

Ethics for professional nurses involves both attitude and action to provide the best care and support, ensuring the physical, mental, and emotional well-being of each patient. Additionally, understanding nurses' attitudes toward legal issues can provide insight into their preparedness and confidence in navigating legal situations. To evaluate the Effect of an Educational Program on Critical Care Nurses' Attitudes toward Ethical and Legal Aspects, AL-Imam Alhussain Medical City was the first of two government facilities in the sacred city of Karbala. A quantitative study using a quasi-experimental design was conducted, involving two groups in the critical care units. Second, there is the Imam Al-Hassan Al-Mujtaba Teaching Hospital. Between August 1st and November 30th, 2025. A total of 100 nurses working in critical care were selected using non-probability convenience sampling techniques. The results showed a significant improvement in nurses' attitudes toward ethical and legal issues in the experimental group over time, whereas no significant change was observed in the control group. Furthermore, the independent-samples t-test revealed a statistically significant difference in nurses' attitudes toward ethical and legal issues between the two groups ($t = 6.38$, $p < .001$), confirming the educational program's effectiveness in improving nurses' attitudes. The research results demonstrated a significant relationship between nurses' attitudes toward ethical and legal concerns and their experience and prior training. These results imply that professional experience and focused training play a critical role in forming attitudes.

Keywords: attitudes, critical care, ethical and legal issues, educational program.

INTRODUCTION

Ethics for professional nurses involves both attitude and action to provide the best care and support, ensuring the physical, mental, and emotional well-being of each patient. Nurses regularly face ethical challenges in every role in the workplace, and they cannot uphold the highest standards of professionalism without an in-depth understanding of ethical principles¹.

The intensive care unit (ICU) is a complex organization that comprises a diverse group of healthcare professionals who work to meet the needs of critically ill patients. ICU care demands everyday medical decision-making, which is grounded in value-based attitudes, behaviours, and actions and involves various ICU carers; ethical issues, conflicts, or dilemmas are common and harmful in ICU care².

Ethical values provide a framework for assessing attitudes and nursing values that influence nurses' objectives, actions, and strategies. Nurses, as healthcare providers and members of the health system, are responsible for providing care to clients and patients, guided by ethical considerations. They need ethical knowledge to effectively manage situations and provide safe, ethical, and legal care in an evolving world. Ethics seeks the most ideal method for dealing with patients, as well as the best nursing capacity and function³.

Globally, approximately 10% of nurses face legal issues annually, often related to malpractice and workplace regulations⁴. In the UK, around 12% of nurses report being involved in legal disputes within their careers. These figures highlight the pervasive nature of legal concerns in the healthcare sector worldwide. In Iraq, current statistics on legal issues among healthcare workers, including nurses, are unavailable⁵. Understanding nurses' attitudes toward these legal issues can reveal facts about their preparedness and confidence in navigating legal situations⁶.

MATERIAL AND METHODS

Study Design: From August 1st to November 30th, 2025, a quantitative study with a quasi-experimental design is employed to examine the effect of the educational program on nurses' attitudes on ethical and legal issues in critical care units.

Study Setting: The study involved two groups in critical care units at two government facilities. The first was AL-Imam Al-Hussain Medical City. In the holy city of Karbala, the second is the Imam Al-Hassan Al-Mujtaba Teaching Hospital.

Study Sample: The study's non-probability convenience sample was drawn from nurses employed in critical care units. There are 100 nurses in the sample, split into two groups: 50 in the experimental group and 50 in the control group. While the control group was not exposed to the education programme, the experimental group was.

Ethical Considerations: Informed consent was obtained from the critical care nurses who participated in the study after they were informed of the study's aim. They were also told they could leave the research at any time and that their participation was optional. Emphasis was placed on creating an appropriate and healthy environment through effective communication skills with participants

Study Instrument: The instrument used for data collection was a structured questionnaire designed to evaluate nurses' attitudes. It consisted of two main sections (Table 1):

Part I: Socio-Demographic Data Sheet:

This section included socio-demographic data on critical care nurses, such as age, sex, educational attainment, critical care unit type, and years of critical care nursing experience.

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Part II: "Critical care Nurses' attitudes regarding legal and ethical aspects"

This section was adapted and modified (Işık et al., 2022⁷; Ahmed Al-Abd et al., 2020⁸; Rimal, 2020⁹; Chopra et al., 2013¹⁰; Dangyangs & Afonne, 2016¹¹) to suit the objectives of the study and to assess critical care nurses' attitudes toward ethical and legal issues. The modification process was based on feedback from supervisors and experts, as well as a review of related literature. The section consists of ten items: five statements addressing nursing staff attitudes toward ethical issues and five statements measuring attitudes toward legal issues. Items were rated on a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree'.

Validity: To ensure accuracy, the scale was translated from English into Arabic using the back-to-back translation technique. By disseminating the scales to a panel of 11 experts from different Iraqi institutions, the content validity was evaluated. A high Content Validity Index (CVI/Ave) of roughly 0.94 indicated that the scales were approved.

Reliability: The pilot study was conducted from 10 to 17 July 2025. Conducted on (10) critical care nurses to examine the reliability of the research questionnaire used in this study. Cronbach's alpha was used to assess internal consistency, yielding a reliability coefficient (r) of 0.94, indicating a high level of internal consistency.

RESULTS

To assess the differences throughout three periods (pre-test, post 1, and post 2) in the study and control groups, Repeated Measures ANOVA test was used to analyze the general views of nurses regarding ethical and legal concerns. The findings showed that study group's attitudes changed significantly over time ($F = 13.7$, $p < .001$), indicating that the study group's mean scores were positively impacted by the educational program used. In particular, the study group showed a progressive rise in mean scores from the pre-test (M.S = 3.92), post-1 (M.S = 4.11), and post-2 (M.S = 4.81), suggesting a change from a neutral to a more favorable attitude toward moral and legal matters. Compared to the other group, the results of the control group did not change significantly across the three time periods. The study showed that the mean scores from the pretest (M.S. = 3.76), after the post 1 test (M.S. = 3.56), and post 2 test (M.S. = 3.69) ($F = 1.909$, $p = 0.154$) indicate that the nurses' attitudes toward these aspects did not change over time.

An independent sample t-test was used to compare the mean scores (M.S.) of the study and control groups in order to analyze the data shown in Table (3) regarding attitudes of ethical and legal issues and their differences in across two groups. Three levels were created using the mean scores: Negative Attitude: Mean score from (1.0 to 2.5), Neutral Attitude: Mean score from (2.6 to 4.0), Positive Attitude: Mean score from (4.1 to 5.0). The statistical significance of the t-test will further clarify whether the observed differences are most likely due to

Table 1. Demographical characteristics of the nurses

Demographic Characteristics		Control group		Experimental group		p- value
		f	%	f	%	
Age Mean $\pm$ SD 27.3 $\pm$ 3.5	20-29 years	42	84.0	37	74.0	.064
	30-39 years	7	14.0	13	26.0	
	≥ 40 years	1	2.0	0	0	
	Total	50	100.0	50	100.0	
Sex	Male	30	60.0	31	62.0	.984
	Female	20	40.0	19	38.0	
	Total	50	100.0	50	100.0	
Educational level	Secondary nursing school	1	2.0	6	12.0	.118
	Diploma	19	38.0	14	28.0	
	Bachelor	25	50.0	28	56.0	
	Post Graduate	5	10.0	2	4.0	
	Total	50	100.0	50	100.0	
Experience in nursing	1-5 years	42	84.0	31	62.0	.097
	6-10 years	6	12.0	18	36.0	
	11-15 years	2	4.0	1	2.0	
	Total	50	100.0	50	100.0	
Experience in Critical units	1- 4 years	43	86.0	41	82.0	.624
	5-8 years	5	10.0	6	12.0	
	9-12 years	2	4.0	3	6.0	
	Total	50	100.0	50	100.0	
Type of Critical Care Units	ICU	20	40.0	22	44.0	.632
	CCU	11	22.0	15	30.0	
	Emergency	19	38.0	13	26.0	
	Total	50	100.0	50	100.0	
Have you had any training course about ethical aspects in nursing	Yes	5	10.0	7	14.0	.589
	No	45	90.0	43	86.0	
	Total	50	100.0	50	100.0	
Have you had any training course about legal aspects in nursing	Yes	5	10.0	5	10.0	1.00
	No	45	90.0	45	90.0	
	Total	50	100.0	50	100.0	

%; percentage, f.: Frequency

Table 2. Overall nurses' attitudes of ethical and legal issues and their differences in across three periods (pre-test, post 1, and post 2)

Period	Control group				Study group					
	Negative Attitude (%)	Neutral Attitude (%)	Positive Attitude (%)	M.S	ANOVA test		Negative Attitude (%)	Neutral Attitude (%)	Positive Attitude (%)	M.S
					f	p- value (Sig.)				f
Pre- test	22	38	40	3.76			12	38	50	3.92
Post 1	30	40	30	3.56	1.909	0.154 (NS)	0	32	68	4.11
Post 2	26	39	35	3.69			0	30	70	4.81

Negative Attitude: Mean score from 1.0 to 2.5, Neutral Attitude: Mean score from 2.6 to 4.0, Positive Attitude: Mean score from 4.1 to 5.0

Table 3. Overall nurses' attitudes of ethical and legal issues and their differences in across two groups

Period	Control group				Study group				Independent sample t test			
	Negative Attitude (%)	Neutral Attitude (%)	Positive Attitude (%)	M.S	Negative Attitude (%)	Neutral Attitude (%)	Positive Attitude (%)	M.S	t	Mean Difference	p-value	Sig.
Pre- test	22	38	40	3.76	12	38	50	3.92				
Post 1	30	40	30	3.56	0	32	68	4.11	6.38	.289	.000	HS
Post 2	26	39	35	3.69	0	30	70	4.81				

Negative Attitude: Mean score from 1.0 to 2.5, Neutral Attitude: Mean score from 2.6 to 4.0, Positive Attitude: Mean score from 4.1 to 5.0

Table 4. Relationship between the nurses' attitudes regarding ethical and legal aspects with their demographic characteristics

Nurses' attitudes	Age	Educational level		Experience in nursing		Experience in Critical care		Type of Critical Care Units	Sex	Have training about ethical aspects		Have training about legal aspects				
	One Way ANOVA test								Independent sample t test							
	F*	p- value (Sig.)	F*	p- value (Sig.)	F*	p- value (Sig.)	F*	p- value (Sig.)	t*	p- value (Sig.)	t*	p- value (Sig.)	t*	p- value (Sig.)		
Nurses' attitudes regarding legal and ethical aspects	2.55	.072 (NS)	2.33	.060 (NS)	4.15	.036 (S)	14.75	.000 (HS)	0.98	.180 (NS)	0.466	.461 (NS)	14.76	.004 (S)	13.87	.001 (HS)

F* (f- value of One Way ANOVA test), t* (t- value of independent sample t test)

the intervention or simply chance. The test showed a t-value of (6.38) with mean difference between M.S of two groups (study and control) is (0.289) at $p < .001$. This indicates that there is a difference in the change of nurses' attitudes of those aspects between the two groups (study and control) over three different time periods.

According to the information this study indicates that in Table 4 examine how nurses' attitudes about ethical and legal issues relate to their demographics, including age, gender, years of experience, educational attainment, and location of employment. The study uses two statistical techniques to find significant differences between groups: the t-value from independent sample t-tests and the F-value from ANOVA testing.

The One Way ANOVA test showed a statistically significant relationship between nurses' attitudes of ethical and legal issues and some of their demographic information, such as experience in nursing F-value)4.15(at p value = .036(and experience in Critical care F-value)14.75(at p value = (.000).

Independent sample t test show that there is a statistically significant relationship between nurses' attitudes of ethical and legal issues and nurse if have training about ethical aspects and nurse if have training about legal aspects t-value (14.76) at p value =(.004(and t-value (13.87) at p value =(.001(respectively.

DISCUSSION

Discussion of the Overall nurses' attitudes of ethical and legal issues and their differences in across three periods

The results of this study, shown in Table 2, reveal a notable change in the experimental group's attitudes over time ($F = 13.7$, $p < .001$), suggesting that the educational program had a positive effect on their average scores. The experimental group's average scores increased steadily from the pre-test (M.S. = 3.92) to the first post-test (M.S. = 4.11) and then to the second post-test (M.S. = 4.81), showing that their attitudes toward ethical and legal issues changed from neutral to more positive. In contrast, the control group's scores did not change significantly across the three times. This suggests that the gradual improvement in the experimental group's average scores from the pre-test to the first and second post-tests indicates that the program had an immediate impact and contributed to the development of more positive attitudes toward ethical and legal issues over time. The rise in average scores across the program's implementation indicates a clear shift in attitudes from a level closer to neutrality to a more positive one, demonstrating that participants not only acquired knowledge but also developed a greater conviction and acceptance of the importance of these issues in professional practice.

These findings were consistent with a study (Shibi et al., 2018)¹². Reporting that participants had favourable attitudes toward the legal aspects of healthcare. This agreement confirms that educational programs positively influence nurses' engagement with legal aspects. This result also aligns with the findings of Haffiz et al. (2016)¹³, who reported that staff nurses had an average post-test attitude score of 184.00, much higher than their average pre-test score of 150.44, indicating that the booklet was effective in encouraging a positive attitude toward legal responsibilities among staff nurses.

The current results were consistent with the study by Mohamed & Mohamed (2020)¹⁴, which showed that the training program was indeed effective and efficient in improving nurses' attitudes and attitudes toward ethical issues. These findings align with a study (Sharma, 2020)¹⁵ that demonstrated an educational handbook improved

nurses' understanding of the Nursing Ethics Code and enhanced ethical attitudes, indicating that well-organised educational materials can positively influence attitudes.

Collectively, these studies support the current findings, demonstrating that structured, informed educational interventions can positively influence nurses' ethical and legal attitudes. The sustained improvement observed across multiple post-tests in the current study further underscores the value of repeated, reinforced educational strategies in promoting long-term attitude change among nursing professionals.

Discussion of the Overall nurses' attitudes of ethical and legal issues and their differences in across two groups

The findings of the present study (Table 3) demonstrate a statistically significant difference in the change of nurses' attitudes toward ethical and legal aspects between the experimental and control groups during the same time period, with the experimental group showing a positive improvement ($p < .001$). This indicates that the educational intervention implemented in the current study effectively enhanced nurses' attitudes toward ethical and legal issues in clinical practice. It provides stronger evidence that structured, repeated educational interventions can lead to significant, sustained attitude changes, highlighting the importance of integrating such programs into nursing education and professional development to enhance ethical and legal competence in clinical practice.

These findings align with the study by Hemalatha (2018)¹⁶, which reported that self-instructional modules significantly enhanced nurses' favourable attitudes toward the legal and ethical aspects of obstetric and gynecological nursing practice.

In addition, the results of the current study are consistent with the findings of Sujitha (2020)¹⁷, who demonstrated that self-instructional educational materials significantly improved nurses' attitudes regarding legal responsibilities in psychiatric care. That study emphasized that structured educational interventions increase nurses' awareness of legal accountability, patient safety, and professional responsibility.

It is consistent with the study by Momennasab et al. (2021)¹⁸, which showed that teaching ethical codes through group reflection was also effective in improving the nurses' attitude. The mean changes in the scores of attitude before and after the intervention did not differ significantly between the two groups, which shows that teaching through lectures has also been able to improve nurses' attitude.

Relationship between the nurses' attitudes of ethical and legal aspects with their demographic characteristics:

The results in table (4) indicate a statistically significant relationship between nurses' attitudes towards ethical and legal issues and their nursing experience (at a significance level of $p = 0.036$). Practical experience is not limited to the technical aspect, but includes dealing with patients and their families, and solving real legal and ethical problems, which contributes to establishing attitudes that support adherence to values and standards.

The current result agrees with the result of (Hemalatha,2018)¹⁶. Who found in his research that there is statistical relationship between nurses' attitudes regarding legal and ethical aspects on the one hand, and nursing experience on the other. This finding is inconsistent with the study conducted by Rimal (2020)⁹. There was no statistically significant association between the level of attitudes and years of work experience.

The findings demonstrate a statistically significant relationship between nurses' attitudes toward ethical and legal issues and their experience in the critical care unit (CCU) ($p = 0.000$). Experience in the CCU extends beyond the medical side; it also includes addressing psychological, ethical, and legal issues. This helps nurses become more aware and develop more mature and positive attitudes. Consequently, the present findings indicate that employment in critical care units is vital for fostering nurses' positive attitudes toward ethical and legal issues, as it offers a demanding environment that reinforces their professional values and motivates compliance with laws and standards. This finding aligns with Hasan et al. (2025)⁵, who demonstrated a significant positive relationship between nurses' attitudes toward legal issues and their experience in the emergency care units ($p = 0.001$). Also The present findings support the study conducted by Mohamed & Mohamed (2020)¹⁴, which showed a highly statistically significant relationship between nurses' attitudes toward professional nursing ethics and their experience in emergency units.

This study also indicates a statistically significant relationship between nurses' attitudes toward ethical and legal issues and their receipt of training in ethical matters (at a significance level of $p = 0.004$). Thus mean that the training helps nurses realize the importance of these issues in daily practice, leading to a shift in their attitudes from neutrality or weakness to greater support for ethical and legal values. This finding was confirmed by Hemalatha H. (2018)¹⁶, who reported a statistically significant relationship between nurses' attitudes toward ethical and legal issues in OBG Nursing among staff nurses and their receipt of training in ethics. This result is in agreement with the findings of (D'Souza et al, 2020)¹⁹ which showed that there is a relationship between nurses' attitudes toward ethical and legal issues and their receipt of training in ethical fields.

This study also indicates a statistically significant relationship between nurses' attitudes toward ethical and legal issues and their receipt of training in legal matters (at a significance level of $p = 0.001$). This suggests that training programs enhance nurses' awareness of their legal responsibilities, which in turn positively and sustainably influences their attitudes, making them more willing to act in accordance with legal standards. The current findings show that legal training is an effective way to change their attitudes toward adhering to laws and ethical standards. This helps ensure that healthcare is of high quality and that nurse's practice professionally.

The current result also agrees with Sujitha's (2020)¹⁷, who confirmed through his research that there is a statistically significant relationship between the attitude score and selected socio-demographic variables, such as the number of in-service education courses attended and their receipt of training in the legal domain. This finding is inconsistent with the study conducted by Singh & Kaur (2022)²⁰, which found no significant association between attitude level among psychiatric staff nurses and their previous training regarding legal aspects.

Recommendations

- Hospital management should formally require and set aside time and resources for regular ethical-legal training, since it has been shown to improve nurses' competencies and professional attitudes.
- Get front-line nurses, especially those with advanced training and a good attitude, to help review and improve hospital policies about patient rights, informed consent, and end-of-life care on a regular basis to make sure they are practical and ethically sound.
- Conduct this study across various hospital environments, cultural frameworks, and healthcare professional cohorts to corroborate the results and establish the educational model's generalizability.

CONCLUSION

The experimental group's attitudes shifted from neutral to positive over the three sessions, indicating that the program promoted ethical and legal attitudes. The control group, conversely, exhibited no noticeable change, underscoring the intervention's significance in modifying attitudes.

The research findings demonstrated significant relationships between nurses' attitudes toward ethical and legal issues and their experience and prior training. These findings suggest that professional experience and targeted training significantly influence attitudes.

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