

Ethical Awareness and Practices Among Emergency Department Personnel in Riyadh's Tertiary Hospitals: A Cross-Sectional Analysis

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Introduction: Ethical dilemmas in healthcare, particularly in emergency medical services (EMS), present significant challenges for healthcare workers (HCWs), necessitating a profound understanding of ethics and decision-making. This study assesses the ethical awareness and practices among HCWs in emergency departments of tertiary hospitals in Saudi Arabia, aiming to identify areas of strength and opportunities for improvement.

Methods: A cross-sectional survey was conducted among 256 HCWs, including physicians, nurses, and administrative staff, in emergency departments across tertiary hospitals in Riyadh, Saudi Arabia. The questionnaire evaluated participants' knowledge of healthcare ethics, their experiences with ethical dilemmas, and the sources from which they derived their ethical understanding.

Results: The majority of participants exhibited a commendable level of ethical knowledge and practice, with frequent encounters of ethical or legal issues highlighting the pervasive nature of ethical challenges in emergency healthcare settings. Key sources of ethical knowledge included experiential learning and academic lectures, with a notable emphasis on practical experience. Despite the satisfactory level of ethical awareness, areas requiring further educational focus were identified, emphasizing the need for enhanced ethics training tailored to the emergency medical context.

Discussion: The findings underline the critical importance of incorporating ethics into the core of healthcare education and ongoing professional development for HCWs. Establishing a culture of continuous ethical dialogue and learning is essential for fostering patient-centered care and making informed ethical decisions in the fast-paced environment of emergency services. The study advocates for revising current ethics training programs to ensure they are comprehensive, relevant, and accessible, preparing HCWs to effectively address both current and future ethical challenges.

Keywords: awareness, knowledge, ethical awareness, ethical knowledge, healthcare workers, emergency department, tertiary hospitals

Introduction

Healthcare ethics, embodying the moral compass guiding medical professionals, is fundamental in shaping the dynamics of patient-doctor relationships. Its significance is underscored by the potential erosion of these relationships when ethical standards are compromised, leading not only to diminished service quality but also to the possible emergence of violence and abuse within healthcare settings. This concern is widespread, touching various contexts in the healthcare sector, particularly among nurses, resident doctors, and medical students.¹⁻³ The principles of autonomy, fairness, beneficence,

and non-maleficence form the cornerstone of ethical decision-making in clinical settings, guiding healthcare professionals in evaluating the morality of their actions.^{4,5}

In today's global landscape, fraught with environmental crises, public health emergencies, and social conflicts, the role of healthcare ethics extends beyond individual patient interactions to include broader concerns of sustainable healthcare practices. This holistic approach is essential for the resilience of healthcare systems, enabling them to withstand and adapt to the diverse challenges of our times. Emergency healthcare settings, in particular, demand the integration of ethical principles due to the critical nature of decision-making in these scenarios, which significantly impacts patient outcomes, resource allocation, and public health resilience.

The foundation of healthcare ethics can be traced back to seminal documents like the Hippocratic Oath, Nuremberg Code, and Helsinki Declaration. Embedding these principles early in medical careers is imperative, yet a gap often emerges in practice. The emphasis on ethics training tends to diminish during initial clinical rotations, leading junior doctors and medical students to absorb healthcare ethics through a "hidden curriculum" from more experienced practitioners.^{6,7}

A standardized and uniform approach to medical ethics is paramount, given the diverse backgrounds, job responsibilities, and perceptions of medical standards and conduct. Without a consistent ethical framework, healthcare professionals may default to practices aligned more closely with personal norms than with professional standards.^{8–10} Despite its critical role, research into the understanding and perspectives of healthcare ethics among medical professionals, especially in resource-limited settings like Saudi Arabia, remains scarce. This study aims to bridge that gap by evaluating ethical awareness and expertise among emergency care providers in tertiary hospitals in Saudi Arabia, a vital component in enhancing patient outcomes.

Previous studies, such as those conducted by Adhikari et al (2016), Singh et al (2016), Janakiram et al (2014), and Hariharan et al (2006), offer valuable insights into the significant gaps in knowledge and attitudes towards healthcare ethics among healthcare professionals. These disparities in ethical understanding and application across different medical fields and regions highlight the need for comprehensive ethical education and a focused approach to address the unique challenges faced by healthcare workers.^{11–13}

In Saudi Arabia, the ethical competence of emergency medical department staff is crucial for the quality of healthcare delivery. These professionals face complex moral dilemmas, must uphold patient confidentiality, and respect diverse cultural and religious beliefs while making informed decisions in high-pressure situations. A profound understanding of ethical principles is essential not only for enhancing patient care quality but also for fostering trust and confidence between healthcare providers and patients.

This study aims to assess the ethical awareness and knowledge among healthcare professionals in Riyadh's tertiary hospitals, enriching the understanding of healthcare ethics in Saudi Arabia and illuminating the specific challenges faced by emergency department personnel. By identifying strengths and areas for improvement in ethical awareness and understanding, this research seeks to inform targeted initiatives and educational programs, thereby enhancing the ethical competence of healthcare professionals in this critical setting. The ultimate goal is to assess the level of ethical awareness among healthcare workers in the Emergency Department (ED) of tertiary hospitals in Saudi Arabia, evaluate their ethical knowledge, identify common ethical challenges, explore the impact of ethical awareness and knowledge on patient care quality, and provide recommendations for enhancing ethical education and training programs in the ED of Saudi Arabian tertiary hospitals.

Materials and Methods

Study Design and Participants

This cross-sectional study aimed to assess ethical awareness and knowledge among healthcare workers in the Emergency Departments (EDs) of tertiary hospitals in Riyadh, Saudi Arabia. We targeted senior residents (SRs)—defined as residents in their final year of training—and consultant physicians across both clinical and non-clinical departments. The inclusion of participants aged 25 years and above was determined based on the rationale that healthcare workers within this age group are likely to have completed their foundational medical training and begun engaging in ethical decision-making processes independently. This age criterion was thus considered critical for capturing mature, informed perspectives on ethical issues within the healthcare setting. Our sampling strategy was designed to encompass a broad

spectrum of experiences and perspectives by including a diverse pool of participants concerning age, gender, and professional background.

Questionnaire Administration

The questionnaire, rigorously validated through a pilot study involving a separate cohort of healthcare professionals not included in the main study, was designed to gather detailed insights into the participants' ethical awareness and knowledge. The validation process ensured that the questionnaire was both reliable and relevant to the study's objectives. To mitigate bias, the questionnaire distribution and collection were anonymized and conducted independently by a third party not involved in the study's analysis. This strategy aimed to eliminate any potential influence of the research team on participants' responses.

Informed Consent Process

Each participant provided written informed consent, obtained after a thorough explanation of the study's aims, procedures, potential risks, and benefits, as well as the voluntary nature of participation. The consent form, reviewed and approved by the Local Research Ethics Committee, included a statement of confidentiality for all provided information.

Ethical Considerations

Ethical approval for this study was granted by King Saud University Research and Ethics Committee, with the approval reference number [Ref No: KSU-HE-23-044]. This approval underscores our commitment to upholding the highest ethical standards throughout the research process, from participant recruitment to data analysis.

Exclusion Criteria and Data Management

Incomplete questionnaires were excluded from the analysis to maintain the integrity of the study's data set. This criterion was established before data collection began and was strictly followed during the analysis phase. The time allocated for completing the questionnaire was standardized to 30 minutes, ensuring uniformity across participants.

Statistical Analysis

Data analysis was conducted using SPSS version 15, employing descriptive statistics to summarize demographic information and the chi-square test to examine relationships between demographic variables and ethical awareness levels. The choice of statistical tests was predicated on their suitability for analyzing the types of data collected, with a significance level set at $p < 0.05$.

Results

The study successfully recruited 256 healthcare workers from emergency departments in tertiary hospitals in Riyadh, Saudi Arabia. Specifically, 40.2% of these participants were in the 31–40 years age bracket, while males represented a significant majority, constituting 67.2% of the total respondents. The detailed demographic distribution of participants is presented in [Table 1](#).

Professional Roles and Preferences

Junior physicians constituted the largest professional group among the participants, accounting for 34.4%, closely followed by consultant physicians (31.6%) and nurses (20.7%). The diversity within healthcare roles, including minimal representations from other healthcare professionals, underscores the breadth of perspectives included in this study.

Professional Roles and Preferences

In addressing ethical dilemmas, a notable preference was observed for consulting supervisors (31.6%) and colleagues (25%). Similarly, for legal issues, supervisors were the primary source of advice (34%). These findings, detailed in [Table 2](#), offer insights into the support networks relied upon within the medical community for ethical and legal challenges.

Table 1 Demographics of the Participants

Variables	Description (n=256)
Age	
30 or less	96 (37.5)
31–40	103 (40.2)
> 40	57 (22.3)
Gender:	
Male	172 (67.2)
Female	84 (32.8)
Category:	
Junior physicians	88 (34.4)
Consultant physicians	81 (31.6)
Nurses	53 (20.7)
Paramedic	6 (2.3)
Pharmacist	6 (2.3)
Registrar	4 (1.6)
Specialist	4 (1.6)
Technician	4 (1.6)
Emergency Medical Services	3 (1.2)
Administration	2 (0.8)
Dentist	1 (0.4)
Fellow	1 (0.4)
Physiotherapist (PT)	1 (0.4)
Resident	1 (0.4)
Retired doctor	1 (0.4)

Table 2 Personnel Preferred for Ethical Issue Consulting

Variables	Description (n=256)
Preference in consulting on an ethical problem:	
Supervisor	81 (31.6)
Colleague	64 (25)
Head of Department	39 (15.2)
Ethics Committee	24 (9.4)
Chief of Medical staff	15 (5.9)
Hospital Administrator	12 (4.7)
Close friend/family	7 (2.7)
Professional Association	7 (2.7)
Text, Internet	6 (2.3)
Program director	1 (0.4)
Preference in consulting on a legal problem:	
Supervisor	87 (34)
Colleague	47 (18.4)
Lawyer	38 (14.8)
Hospital Administrator	35 (13.7)
Chief of Medical staff	28 (10.9)
Professional insurance company	21 (8.2)

(Continued)

Table 2 (Continued).

Variables	Description (n=256)
Source of knowledge of healthcare ethics and law:	
Experience at work	85 (33.2)
Lectures, seminars	64 (25)
During training	61 (23.8)
One's own reading	42 (16.4)
Others	4 (1.6)
Instruments for learning ethics and law:	
Lectures	60 (23.4)
Media	54 (21.1)
Books on ethics	43 (16.8)
General texts	29 (11.3)
Panel discussions	24 (9.4)
Ethics journals	19 (7.4)
Workshops	18 (7)
Case conferences	9 (3.5)

Frequency of Ethical/Legal Encounters

A considerable segment of participants reported encountering ethical or legal issues on a weekly basis (34%), indicating regular engagement with such challenges in their professional roles.

Sources and Instruments for Knowledge

Work experience emerged as the predominant source of knowledge on healthcare ethics and law (33.2%), followed by academic lectures and seminars (25%), and on-the-job training (23.8%). The use of lectures (23.4%) and media (21.1%) as primary learning tools further highlights the diverse methods for ethical education among healthcare workers. The specific preferences for ethical and legal education are summarized in [Tables 3](#) and [4](#).

Knowledge and Attitudes Towards Healthcare Ethics

There was a broad consensus on the importance of respecting patients' wishes and the necessity of obtaining parental consent for treating minors. Diverse opinions were observed on several other ethical considerations, demonstrating a spectrum of attitudes toward healthcare ethics among participants, as elaborated in [Table 3](#).

Ethical Practices Among Healthcare Workers

Responses indicated a general agreement against viewing ethical conduct solely as a means to avoid legal repercussions. However, significant variations in opinions on other ethical practices were noted, particularly between physicians and non-physician staff. These observations are critical for understanding the ethical practice landscape and are detailed in [Table 4](#).

Table 3 Responses to Ethical Queries in Healthcare

	Disagree	Neutral	Agree
Adherence to Patient's Wishes and Informing of Wrongdoing	39 (15.2)	21 (8.2)	196 (76.6)
Importance of Confidentiality in Treatment	174 (68)	18 (7)	64 (25)
Doctor's Best Effort Irrespective of Patient's Opinion	90 (35.2)	33 (12.9)	133 (52)
Informing Relatives About Patient's Condition	112 (43.8)	47 (18.4)	97 (37.9)
Treatment of Children Without Parental Consent	67 (26.2)	43 (16.8)	146 (57)
Doctor's Stance on Abortion if Permitted by Law	106 (41.4)	52 (20.3)	98 (38.3)
Doctor's Decision as Final in Treatment Disagreements	105 (41)	58 (22.7)	93 (36.3)

Table 4 Responses to Ethical Practice Queries in Healthcare

	Disagree	Neutral	Agree
Ethical Conduct to Avoid Legal Action	138 (53.9)	32 (12.5)	86 (33.6)
Inclusion of Ethics in Medical/Nursing Syllabus	47 (18.4)	32 (12.5)	177 (69.1)
Difficulty in Maintaining Confidentiality	141 (55.1)	38 (14.8)	77 (30.1)
Income from Patient Referrals for Medical Tests	109 (42.6)	56 (21.9)	91 (35.5)
Ethics of Copying in Examinations	75 (29.3)	41 (16)	140 (54.7)
Documentation of Unperformed Examinations	148 (57.8)	35 (13.7)	73 (28.5)
Assisting a Patient's Wish to Die	153 (59.8)	31 (12.1)	72 (28.1)
Influence of Drug Company Inducements	84 (32.8)	52 (20.3)	120 (46.9)
Disclosure of TB Status to Neighbours	99 (38.7)	55 (21.5)	102 (39.8)
Consent Required Only for Surgeries	121 (47.3)	38 (14.8)	97 (37.9)

Table 5 Comparison of Ethical Knowledge and Attitude by Staff Category

Ethical Knowledge/Attitude Query	Staff Category	Agree	Disagree	P value
Adherence to Patient's Wishes and Informing of Wrongdoing	Physician	142 (75.5)	46 (24.5)	0.517
	Nurses, Technicians or Administrative	54 (79.4)	14 (20.6)	
Importance of Confidentiality in Treatment	Physician	42 (22.3)	146 (77.7)	0.102
	Nurses, Technicians or Administrative	22 (32.4)	46 (67.6)	
Doctor's Best Effort Irrespective of Patient's Opinion	Physician	92 (48.9)	96 (51.1)	0.108
	Nurses, Technicians or Administrative	41 (60.3)	27 (39.7)	
Informing Relatives About Patient's Condition	Physician	66 (35.1)	122 (64.9)	0.127
	Nurses, Technicians or Administrative	31 (45.6)	37 (54.4)	
Treatment of Children Without Parental Consent	Physician	104 (55.3)	84 (44.7)	0.358
	Nurses, Technicians or Administrative	42 (61.8)	26 (38.2)	
Doctor's Stance on Abortion if Permitted by Law	Physician	66 (35.1)	122 (64.9)	0.082
	Nurses, Technicians or Administrative	32 (47.1)	36 (52.9)	
Doctor's Decision as Final in Treatment Disagreements	Physician	66 (35.1)	122 (64.9)	0.499
	Nurses, Technicians or Administrative	27 (39.7)	41 (60.3)	

Comparative Analysis of Knowledge, Attitude, and Practice

Comparative analyses revealed no significant differences in knowledge and attitudes towards healthcare ethics between physicians and other staff categories. Noteworthy disparities in ethical practices were identified, particularly concerning the significance of ethical conduct in avoiding legal issues and the challenge of maintaining confidentiality. These comparative findings are presented in [Tables 5](#) and [6](#).

The diversity in responses across different professional categories underscores the complex and varied nature of ethical decision-making in healthcare settings. While there is alignment in certain areas of ethical knowledge and attitudes, the observed differences in practices highlight the need for targeted educational and policy measures to enhance ethical practices across all healthcare professional levels.

Discussion

This study, involving 256 healthcare providers from emergency departments in Saudi Arabian tertiary hospitals, provides critical insights into the ethical dynamics within a high-pressure healthcare setting. Our findings indicate that encounters with ethical or legal issues are frequent, occurring mostly on a weekly or daily basis. This pattern not only highlights the prevalence of ethical challenges in emergency healthcare but also underscores the necessity for continuous ethical awareness and decision-making by healthcare professionals. Such consistent encounters with ethical dilemmas mirror the broader global experience, suggesting that navigating complex ethical landscapes is a universal element of healthcare practice.

Table 6 Ethical Practice Comparison by Staff Category

Ethical Practice Query	Staff Category	Agree	Disagree	P value
Ethical Conduct to Avoid Legal Action	Physician	56 (29.8)	132 (70.2)	0.032
	Nurses, Technicians or Administrative	30 (44.1)	38 (55.9)	
Inclusion of Ethics in Medical/Nursing Syllabus	Physician	133 (70.7)	55 (29.3)	0.356
	Nurses, Technicians or Administrative	44 (64.7)	24 (35.3)	
Difficulty in Maintaining Confidentiality	Physician	49 (26.1)	139 (73.9)	0.020
	Nurses, Technicians or Administrative	28 (41.2)	40 (58.8)	
Income from Patient Referrals for Medical Tests	Physician	60 (31.9)	128 (68.1)	0.044
	Nurses, Technicians or Administrative	31 (45.6)	37 (54.4)	
Ethics of Copying in Examinations	Physician	104 (55.3)	84 (44.7)	0.736
	Nurses, Technicians or Administrative	36 (52.9)	32 (47.1)	
Documentation of Unperformed Examinations	Physician	44 (23.4)	144 (76.6)	0.003
	Nurses, Technicians or Administrative	29 (42.6)	39 (57.4)	
Assisting a Patient's Wish to Die	Physician	47 (25)	141 (75)	0.064
	Nurses, Technicians or Administrative	25 (36.8)	43 (63.2)	
Influence of Drug Company Inducements	Physician	82 (43.6)	106 (56.4)	0.082
	Nurses, Technicians or Administrative	38 (55.9)	30 (44.1)	
Disclosure of TB Status to Neighbours	Physician	78 (41.5)	110 (58.5)	0.371
	Nurses, Technicians or Administrative	24 (35.3)	44 (64.7)	
Consent Required Only for Surgeries	Physician	68 (36.2)	120 (63.8)	0.345
	Nurses, Technicians or Administrative	29 (42.6)	39 (57.4)	

The rarity of monthly encounters with ethical or legal problems within our cohort points to a dynamic and rapidly changing ethical environment, emphasizing the need for healthcare systems to adopt flexible and responsive ethical frameworks. This observation is particularly relevant to emergency medical services, where the pace and nature of work demand an agile approach to ethical decision-making.

Comparing our findings with global trends, it becomes evident that the ethical challenges encountered by healthcare professionals in Saudi Arabia are not isolated but part of a wider pattern observed across different healthcare systems worldwide. This similarity underscores the global nature of ethical dilemmas in healthcare, necessitating a collective effort to understand and address these challenges within varied contexts.

In the present study, the majority of participants agreed that Patient's wishes must always adhere to the patient and that children should not be treated without the consent of their parents. Regarding confidentiality as an unimportant aspect, more than one-half of the participants were disagree. The largest proportions of the participants also disagreed with the point of informing relatives about the condition of the patient, refusing abortion if the law allows it and taking the decision in case of disagreement between the patients and the healthcare professionals. These findings reflect an acceptable level of knowledge and positive attitude of participants toward healthcare ethics.

Our findings resonate with the results of Hariharan et al,¹³ emphasizing the commonality of ethical challenges across different healthcare settings. However, unlike the study by Ranasinghe et al,¹⁴ which reported a low level of ethical knowledge among doctors, our participants demonstrated a higher level of ethical awareness. This discrepancy could be attributed to cultural, educational, or systemic differences in healthcare settings. Notably, the high reliance on experiential learning in our cohort aligns with global trends but contrasts with findings from settings where formal education plays a more dominant role.^{15–17} These differences underscore the need to tailor ethical education and frameworks to the specific contexts of healthcare systems.

The implications of our findings are multifaceted, impacting both clinical practice and policy formulation. With a demonstrated level of ethical awareness among healthcare professionals, there is an opportunity to build upon this foundation through targeted educational programs and policy initiatives. Enhanced training modules focusing on ethics could be integrated into ongoing professional development, ensuring that ethical considerations remain at the forefront of patient care.

In a previous study by Unnikrishnan et al, they reported that the medical practitioners had a positive perception of issues relating to consent in medical practice. However, the same degree of perception was not observed for issues related to confidentiality and their dealing with patients during emergency conditions.¹⁶

Regarding the practice of the participants of the healthcare ethics, our results demonstrated acceptable practice which was represented by the disagreement of the largest proportions of the participants on the importance of ethical conduct to avoid legal actions, abandoning confidentiality, receiving income from referring patients for medical tests, writing normal for unperformed examination, and the requirement of consent for only surgeries, and not for the conduct of diagnostic tests, and medicines. However, the largest proportion of participants agreed that doctors are influenced by drug company inducements including gifts.

In a study of Ranasinghe et al conducted in 2020, they found that the most doctors had a poor level of knowledge of medical ethics, and the majority (54%) responded that they never accept gifts from pharmaceutical companies in recognition of their prescribing pattern.¹⁴ The study showed better practice in this point compared to ours.

In contrast to our findings, in a study of Unnikrishnan et al, the majority of medical practitioners agreed that ethical conduct is important to avoid legal and disciplinary actions.¹⁶ More than one-half of the participants in our study disagree with this statement, highlighting a divergence in perceptions of ethical conduct's role in legal avoidance. This variance underscores the complexity of ethical attitudes within healthcare settings and points to the necessity of a nuanced approach to ethical training.

The findings underscore the critical need for integrating ethical training within healthcare education and ongoing professional development. Given the frequent ethical dilemmas encountered, there is a clear imperative for policy-makers and educators to bolster the ethical preparedness of healthcare professionals. This involves not just traditional educational avenues but also leveraging practical experiences and digital media as key learning tools. Such initiatives are essential for fostering a culture of ethical vigilance and responsive decision-making in emergency medical settings, ensuring that patient care is always guided by the highest ethical standards. This approach is vital for preparing healthcare professionals not only to face current ethical challenges but also to adapt to the evolving ethical landscapes of future healthcare environments.

In contrast to our results, Singh et al found a statistically significant difference between the opinions of consultants and senior resident (SRs) on issues like, adherence to confidentiality; paternalistic attitude of doctors (doctors should do their best for the patient irrespective of patient's opinion); doctor's decision should be final in case of disagreement and interest in learning ethics ($P < 0.05$).¹¹

One another study showed controversial findings with our results, where the attitude of physicians and nurses were significantly different ($p < 0.05$) in 9 out of 22 questions pertaining to different aspects of healthcare ethics.¹⁸

Regarding the practice, our results revealed that, there was a significant difference ($P < 0.05$) between physicians as compared to nurses in the following statements pertain to the practice of healthcare ethics; Ethical conduct is only important to avoid legal action, keep confidentiality, doctors are receiving income from medical tests or drug companies, and writing nervous system examination. Physicians showed significant better practice regarding the previous aspects compared to the other groups that included nurses, technicians and administrative.

One of the previous study reported a significant difference in the knowledge, awareness, and practice of ethics among consultants and SRs,¹¹ Hariharan et al also reported that, physicians had a stronger opinion than nurses regarding the practice of ethics such as adherence to patients' wishes, confidentiality, consent for procedures and treating violent/non-compliant patients ($p = 0.01$).¹³ Also, it was reported by Bhardwaj et al that there was a statistically significant difference between the opinion of physicians and nurses with respect to adherence to confidentiality, paternalistic attitude of doctors (doctors should do their best for the patient irrespective of the patient's opinion), informing close relative of a patient's consent for procedures.¹⁴

In our results, Physicians in emergency medical services in tertiary hospitals in Saudi Arabia have acceptable knowledge and acceptable practice towards the healthcare ethics. Another study conducted by Al-Shehri in Saudi Arabia in Aseer Province reported that more than one-third (35.6%) of the respondents have poor knowledge and only 20% had good knowledge of medical ethics.¹⁹ In another study from Taif region of KSA, most of the physicians had studied medical ethics, the majority of them thought patients should know about their rights, and the patient have the right to know and be informed if any malpractice happened.²⁰

Recent study by Plaiasu et al in 2022²¹ found that ethics adherence remains relatively low because of the insufficient medical ethics awareness. Another study reported the medical ethics knowledge in Fayoum Faculty of medicine, Egypt. It was ought to be reinforced in subjects where knowledge, attitude and practice levels were low.^{22,23}

The methodological strengths of our study contribute significantly to the reliability of our findings. The diverse range of participants, encompassing various roles within emergency medical services, provides a comprehensive view of the ethical landscape in these settings. The use of a detailed questionnaire further enriches the quality of data, enabling a nuanced understanding of both the knowledge and practices related to healthcare ethics.

Crucially, our findings have profound implications for sustainable healthcare practices, particularly in the face of global challenges such as disasters, conflicts, and climate change. The ethical competencies and decision-making processes of healthcare professionals in emergency settings are vital components in building resilient healthcare systems. These systems must not only respond effectively to immediate crises but also adapt and endure through ongoing and future public health challenges.²⁴ Sustainable healthcare, in this context, hinges on the ability to uphold ethical standards while navigating complex and often rapidly evolving scenarios.^{25,26} Our study highlights the need for sustainable ethical frameworks in emergency medicine, which are essential for ensuring not only the immediate well-being of patients but also the long-term resilience of healthcare systems in an era marked by frequent and unpredictable public health challenges.

Our study's insights have important implications for healthcare policy and practice. They highlight the need for policy-makers to consider integrating ethical training more robustly within healthcare curricula and professional development programs. For practitioners, these findings serve as a reminder of the critical role of ethics in patient care, advocating for continuous education and awareness to navigate the complex ethical scenarios that arise in emergency medical settings.

Furthermore, the findings of this study have broader social and cultural implications, particularly within the context of Saudi Arabia. Understanding how healthcare professionals navigate ethical dilemmas in a culture with distinct social norms and values is crucial. This insight can guide the development of culturally sensitive ethical guidelines and training, ensuring that healthcare delivery aligns not only with global standards but also with local cultural and societal expectations.

The position classification of the participants sheds light on the composition of healthcare workers in the Emergency Department. The highest proportions were observed among junior physicians, consultants, and nurses. This reflects the hierarchical structure and distribution of healthcare professionals within the department. It is important to note the lower representation of dentists, fellows, physical therapists, residents, and retired doctors in the study, which may impact the generalizability of the findings to these specific subgroups.

The preferences of the participants for consulting on ethical problems provide insights into their perceived sources of support and guidance.^{27,28} It is noteworthy that supervisors and colleagues were the most preferred personnel for seeking consultation. This highlights the significance of peer collaboration and hierarchical support systems in addressing ethical dilemmas. On the other hand, the program director was the least preferred option, suggesting potential gaps in the perceived accessibility or effectiveness of this role in providing ethical guidance.

The preferences for consulting on legal problems indicate the participants' inclination towards seeking guidance from supervisors in such situations. This finding underscores the importance of the supervisory role in addressing legal issues and ensuring adherence to legal frameworks.^{29–32}

When comparing the results of this study with previously conducted research studies, several similarities and differences emerge. It is important to note that each study is influenced by unique contextual factors and sample characteristics, which may contribute to variations in findings. However, the trends observed in this study, such as the preference for consultation with supervisors and the emphasis on experience as a source of knowledge, align with similar studies conducted in different healthcare settings.

Limitations

In recognizing the limitations of our study, it is crucial to understand how these might impact the generalizability and interpretation of our findings, even though the study provides valuable insights into the ethical awareness and knowledge among healthcare professionals in Emergency Departments.

One key limitation lies in the sample size and selection. With a relatively small group of participants, the applicability of our findings to the broader community of healthcare professionals, especially those beyond emergency settings, becomes constrained. Additionally, the focus on tertiary hospitals within Saudi Arabia might have introduced a degree of selection bias. This selective sampling limits the broader applicability of our results to other healthcare settings, both within and outside Saudi Arabia. Enhancing the sample size and diversity in future studies would be beneficial to improve the external validity of the findings.

Another significant limitation is the reliance on self-report measures for data collection. While self-reports are a valuable tool for understanding perceptions and attitudes, they are inherently subject to biases. Participants may have provided responses they deemed socially acceptable or reflective of perceived expectations. Such biases, including social desirability and response bias, could influence the accuracy and validity of the responses. Future research would benefit from incorporating more objective measures, or complementing self-report data with observational or qualitative data, to present a more comprehensive understanding of ethical awareness among healthcare workers.

The focus of this study on tertiary hospitals in Saudi Arabia also limits its applicability to other healthcare settings. The specific ethical challenges and dilemmas faced by healthcare professionals can vary widely across different resource settings, cultural contexts, and healthcare systems. Therefore, our findings may not fully represent the spectrum of ethical issues encountered in diverse healthcare environments. Future research should aim to include a broader range of healthcare settings to capture a more comprehensive view of ethical awareness and knowledge.

Lastly, the cross-sectional design of our study presents another limitation. This design restricts our ability to infer causal relationships or track changes in ethical awareness and knowledge over time. Longitudinal studies could provide deeper insights into how ethical perceptions and practices evolve in the healthcare profession.

In summary, while our study provides important insights, these limitations highlight the need for cautious interpretation of the findings and suggest directions for future research to build upon our understanding of ethical awareness in healthcare.

Conclusions

This study reveals that healthcare workers (HCWs) within the emergency medical services in Saudi Arabia possess a notable level of ethical knowledge and practice. These findings affirm their capability to navigate the ethical complexities inherent in emergency medical contexts. Nonetheless, the research identifies opportunities for further enhancement in ethics education and training, underscoring the critical need for continuous professional development in this area.

The necessity of embedding ethical training as a fundamental aspect of professional development for HCWs is starkly highlighted. Such training, focused on integrating ethical considerations seamlessly into clinical practice, is pivotal for bolstering patient-centered care. It equips HCWs with the skills necessary to execute informed ethical decisions, thereby cultivating an environment of empathy and respect within emergency services.

Encouraging collaborative discussions on ethical challenges is also essential. Facilitating a culture of open communication and exchange of experiences among healthcare professionals can deepen the collective understanding of ethical issues, promoting a more sophisticated approach to ethical dilemmas.

In response to our findings, it is recommended that healthcare institutions reassess and modernize their ethics training programs to ensure they are thorough, pertinent, and accessible. Training should particularly emphasize realistic scenarios that HCWs may face, enhancing their ability to apply ethical principles in tangible situations.

Future research should investigate the enduring effects of advanced ethics education on the quality of patient care and overall healthcare outcomes. Insights from such studies could inform policymakers and healthcare leaders, aiding in the development of initiatives aimed at addressing current ethical challenges while proactively equipping HCWs for anticipated ethical quandaries.

Although the current proficiency in ethical awareness and practice among HCWs in Saudi Arabian emergency services is commendable, there remains scope for progression. Prioritizing ethics education, encouraging open dialogue, and providing ongoing support for HCWs are fundamental steps towards achieving superior ethical standards in healthcare. Such efforts promise to enrich patient care quality and fortify the healthcare system.

Critically, our study's exploration of ethical practices in emergency medical services gains added significance against the backdrop of global public health crises, including disasters, conflicts, and climate change. Ethical readiness and adaptability are indispensable for the sustainability of healthcare systems capable of facing such challenges. Cultivating a workforce anchored in robust ethical principles enhances the resilience and sustainability of healthcare services. This strategic approach not only meets immediate health demands but also secures long-term efficacy in navigating the evolving global health landscape, thereby carrying profound implications for the formulation of sustainable healthcare policies and practices responsive to contemporary public health challenges.

Institutional Review Board Statement

The Institutional review board (IRB) approval was obtained from the King Saud University Research and Ethics Committee (Ref No: KSU-HE-23-044.)

Data Sharing Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Informed Consent Statement

The information included the study's purpose, the voluntary nature of their participation, and strict confidentiality and secure data storage. The survey had anonymous nature and all respondents agreed to participate in the survey. Written consent was obtained from participants who completed the online questionnaire.

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Disclosure

The authors declare no conflicts of interest in this work.

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