Insights of Bioethics among Healthcare Professionals in All Public and PrivateHospitals of District Haripur, Pakistan

Muhammad Ateeb
University of Haripur
Ijaz ul Haq
University of Haripur
Shahbaz Ahmad Zakki (sazakki@uoh.edu.pk)
University of Haripur
Ehtisham Altaf
University of Haripur
Muhammad Junaid
University of Haripur
Mustafa Ali
University of Haripur
Atif Ur Rehman
University of Haripur
Daniyal Wajid
University of Haripur
Abdullah Farid
University of Haripur
Asad Mehmood
District Health Office Haripur

Research Article

Keywords: Bioethics, healthcare professionals, ethical awareness, ethical practice, ethical dilemmas, ethical training, healthcare sectors, Pakistan.

Posted Date: September 15th, 2023

DOI: https://doi.org/10.21203/rs.3.rs-3349353/v1

Additional Declarations: No competing interests reported.

Abstract

Background: Awareness of bioethics among healthcare personnel is essential to ensure ethical practice in healthcare. The study aimed to assess the level of bioethics insights and awareness among healthcare professionals and explore its associations with socio-demographic characteristics, training/teaching of ethics, practice of medical ethics and specific ethical issues.

Methods: A cross-sectional study was conducted between March and May of 2023 among healthcare professionals (n = 647) including doctors, nurses, LHV, medical technicians/dispensers and other medical personnel from both the public healthcare facilities (BHU, RHC, THQ, and DHQ) and private hospitals located in the Haripur district, Pakistan. The data was collected through a validated questionnaire, whereby a score was given for each response, and a total score was calculated.

Results: The overall mean ± SD awareness scores for ethics in healthcare practice and specific issues in medical ethics were 8.0 ± 2.4 and 32.0 ± 5.2, indicating both physicians and non-physicians need to know more about bioethics. With regard to training and teaching in medical ethics, a significant correlation was found between the duration of the ethical training/teaching and job categories/designations ($p < 0.001$). Ethical views of healthcare professionals differed greatly by job designation regarding the treatment of children without consent (Cramer's V = 0.4) and revealing the patient's condition to relatives (Cramer's V = 0.39). Specific ethical issues such as accepting gifts from patients and pharmaceutical companies, referral fees, advising specific products to patients, disclosure of medical errors, patient's confidentiality, not informing patients fully about treatment and performing tasks for financial gain showed significant associations with healthcare professional's designation ($p < 0.05$). Significant differences were observed in ethical awareness scores based on age, ethnicity, place of posting, professional experience, and the organization's ethical guidelines ($p< 0.05$).

Conclusion: This study highlighted a notable gap in the understanding of certain ethical concerns among healthcare professionals, with nurses showing relatively lower awareness of healthcare practice compared to other professionals. Addressing these issues through targeted training and robust ethical guidelines are critical to improving patient's care and rights in Pakistan's healthcare system.

Background

Ethics covers both what ought to be done and what must be done in a kind, considerate, and respectful way [1]. Generally, the study of morality and ethical principles that are accepted in daily life, known as ethics, aims to establish what is ethically good and wrong in human behavior. Medical ethics analyses ideas, assumptions, beliefs, attitudes, emotions, reasoning, and arguments behind medico-moral making decisions [2]. The professionalism of the medical staff is a crucial component of the ethical framework that governs healthcare [3]. Healthcare ethics mirror local legislation while economic and societal factors can influence ethical behavior. Medical professionals are mandated to act in patients' best interests, which strengthens the impact of assessing their mental and physical health conditions during healthcare provision in both the public and private sectors. This is stated in the Geneva Declaration of the World Medical Association and the International Code of Medical Ethics [4].

The ethical behavior of healthcare workers has been a subject of significant public concern. This is often reflected in complaints about unethical behavior and a rise in legal action against healthcare professionals. Informed consent, non-disclosure and deceptions, patient confidentiality, death determination, doctor-patient interaction, sexual contact between professionals and clients, drug company gifts, and research/publishing misconduct are common ethical dilemmas, especially for physicians. Bioethics, the burgeoning area of medical ethics, addresses such ethical concerns [5, 6]. In addition to endangering doctor-patient relationships, failing to follow healthcare ethics and handling situations inadequately might result in subpar service provision as well as perhaps sparking violent and abusive incidents. Complex ethical problems have emerged as a result of medical advancements and an atmosphere in the healthcare sector that is increasingly demanding. These together have increased the burden on healthcare professionals [7]. The rise in public awareness of unethical behavior among healthcare workers (HCWs) may contribute to the growing number of complaints against them [8].

Evidence of unethical behavior seen by medical students, residents, physicians, and nurses in a variety of contexts have been reported [9–11]. Healthcare practitioners, nurses and those who work in other paramedical fields are required to understand ethical concepts and use them in their clinical practice after finishing their education [12, 13]. Unfortunately, undergraduate and postgraduate medical programs have been neglected to educate ethics for many years [14]. As a consequence, many healthcare workers are not putting ethical principles into practice regularly, which has led to a major gap in the quality of patient care. Moreover, a lack of understanding and application of biomedical ethics have resulted in legal actions being taken against medical personnel [15]. In this regard, Pakistan is not an exception, where accusations of ethical misconduct and an increase in lawsuits against healthcare practitioners have been seen in recent years. Although the Pakistan Medical and Dental Council has a unique code of medical ethics that addresses the issues faced by

Pakistani medical professionals in their particular social and cultural context, there are virtually no bioethics teaching curricula for undergraduate and graduate training programs respectively [16, 17].

Healthcare ethics and ethical standards have become more and more popular over the last several years as a specialty within medicine. Yet, there is still a need for growth in healthcare professionals' education, understanding, comprehension and awareness of the fundamentals of healthcare ethics [18]. Moreover, medical students often disregard and emphasize instruction on medical ethics during their first clinical practice. Through the hidden curriculum, seniors influence the future ethical practices of medical students, junior doctors and other coworkers [19]. Also, nurses are well-versed in the practical application of ethics and the hidden curriculum. This raises the question of whether Pakistani healthcare professionals understand and apply bioethical principles. Due to powerful sociocultural pressures that regulate healthcare organization practices and medical ethics, the topic of the hidden curriculum is very relevant in Pakistani culture [20, 21]. Pakistan is a developing country classified under the D category of the Eastern Mediterranean Region according to the regional classification system established by the World Health Organization (WHO) [22]. Pakistan faces significant economic, political and geopolitical challenges, where government allocates very little money to healthcare (less than 2% of total spending). Moreover, there is a lack of policies on numerous health concerns, unorganized planning, and corruption in the medical administration, which hinder the healthcare system [23]. The lack of patient's legal protection, excessive working hours and low pay scales, a lack of professional evaluation of practitioners, and the lack of mandatory registration of medical and nursing practitioners have all been cited as contributing factors to ethical violations in the Pakistani healthcare system [24].

Physicians and nurses are the key pillars of healthcare delivery; however, they differ in education, professional responsibilities, and perceived medical norms and conduct [25]. The social context of bioethics instruction must be considered; the first step in creating an ethics curriculum for our country's unique social, cultural, and religious setup may be to assess healthcare professionals' fundamental perception, insights and awareness about medical ethics, including all medical technicians, dispensers and other HCWs also. Even though the ethical principles of health care are universally accepted in many countries, individual nations are free to make modifications, frames, and specific interpretations that are in line with their preexisting philosophical and spiritual perspectives, as well as the ethical principles that govern the practice of health care within their respective health systems [26].

In resource-constrained countries like Pakistan, there hasn't been much research evaluating all healthcare professionals (physician or non-physician) deep understanding and awareness regarding healthcare ethics across healthcare facilities (BHU, RHC, THQ, DHQ) and private hospitals. To address this gap, the proposed research would aim to explicate the level of bioethicsinsights and awareness among healthcare professionals (doctors, nurses, LHVs, medical tech/dispensers and other medical personnel) working in both public as well as private hospitals in Haripur district, Pakistan, as well as its relationship with sociodemographic factors, training and teaching of medical ethics, ethics in healthcare practice, and specific issues in medical ethics. This research would be crucial for keeping an eye on ethical practices and moral behavior and improving patient outcomes. The findings of this research will also enable us to emphasize how crucial it is for all medical professionals to be taught bioethics.

Methodology.

Methodology

Study Design and Setting:

The study design was cross-sectional and conducted between March and May of 2023. The settings for the study were the all-public healthcare facilities (BHU, RHC, THQ, and DHQ) and private hospitals located in the district Haripur in Pakistan.

Study Population

Inclusion Criteria

Healthcare professionals/service providers with at least six months of experience in the study setting and who would come into contact with patients (at least once) were eligible for enrollment in the study.

Exclusion Criteria

Those health services providers who were on leave or absent during the study period, or who were unwilling or unable to provide consent to participate in the study, were excluded.

Sampling Procedure

This research used a census sampling (complete enumeration approach) to target all healthcare professionals (doctors, nurses, LHVs medical tech/dispensers and other medical personnel) working across various healthcare facilities. These facilities included 42 Basic Health Units (BHU), 4 Rural Health Centers (RHC), 1 Tehsil Headquarters Hospital (THQ), 1 District Headquarters Hospital (DHQ) and 15 private hospitals/clinics located in District Haripur, Pakistan. A total of 745 healthcare personnel were provided with questionnaires, out of which 98 questionnaires were returned. Ultimately, the study population consisted of 647 healthcare professionals, resulting in a response rate of 86.8%.

Study Instrument

To evaluate the level of ethical insights and awareness in the practice of healthcare as well as the particular dilemmas in medical ethics shown by healthcare professionals a previously pretested and validated structured questionnaire OBMLA [27] was employed, with minor modifications [28, 29] to make it more appropriate for the target population. The final questionnaire comprised a total of 35 items and was self-administered. It followed a structured format, with closed ended questions. The first 12 general questions covered the participant's sociodemographic and professional characteristics, the training or teaching of medical ethics, and the organizational ethical guidelines. In the next part, items (13 to 25) were designed to explore the participants' perspectives on various aspects of healthcare ethics and ethical dilemmas within healthcare practice. Each response was assigned a score from 0 to 2, with the highest score given to the accurate response. The remaining items in this questionnaire focused on specific issues in medical ethics (see Appendix I). Before the study, the questionnaire's content was validated and pretested with 30 physicians, nurses, LHVs, and chemists to determine their comprehensibility and to resolve any ambiguities. To test the internal consistency and reliability of the questionnaire, Cronbach's α coefficient was used, resulting in Cronbach's α: 0.659.

Ethical Considerations

This study complied with the guidelines convened in the Declaration of Helsinki. Before data collection, permission to conduct the research was obtained from the ethical research committee of the university. The study objectives and benefits were explained verbally to the participants, and they were asked to indicate "yes" on the questionnaire if they wished to continue. Written consent was obtained from those who agreed to participate. Study participation was voluntary. There were no incentives for participation. The respondent’s confidentiality and anonymity were assured.

Data Analysis

For analysis, data was exported to SPSS version 24.0. There were descriptive analyses; Both frequency and percentages have been employed to demonstrate the socio-demographic characteristics. The Chi-Square test was used to compare the ethical insights and awareness among healthcare professionals pertaining to the teaching and understanding of bioethics. A Cramer's V value and A Phi were also calculated to assess their strength and association with awareness pertaining to the issues of ethics in healthcare practice and specific issues in medical ethics. To calculate the effect size, the Cramer's values of 0.1, 0.1–0.5, and > 0.5 were utilized for small, medium, and large, respectively [28, 30]. All quantitative data (scores) were reported as mean and standard deviation (mean ± SD), with the Mann-Whitney and Kruskal-Wallis tests, used to analyze the relationship between socio-demographic characteristics and questionnaire mean scores. A p-value of < 0.05 was considered statistically significant.

Results

Demographic Details

The present research included a total of 647 healthcare professionals, of which 159 participants were from BHU, 103 from RHC, 104 from THQ, 162 from DHQ, and 119 from Private hospitals. The majority of them were consultants/doctors (195). Other healthcare workers consist of 104 nurses, 76 LHVs, 173 medical technicians and dispensers, and 99 were other medical staff [Figure 1]. The gender distribution among healthcare professionals was mostly male (56.9%), while females accounted for 43.1%. The majority (74%) were Hazarawal and routinely dealt with hospital patients. Most participants have fewer than 10 years of work experience. The overwhelming majority of participants (97%) pursued medical studies in Pakistan [Table 1].

Table 1
General characteristics of healthcare professionals.
Includes general characteristics and profession-related information from healthcare personnels. The descriptive analysis was applied in terms of mean frequencies and percentages.

Characteristics	Total (n = 647) n (%)
Gender	
Male	368 (56.9)
Female	279 (43.1)
Age	
20–30	182 (28.1)
31–40	300 (46.4)
41 0r above	165 (25.5)
Ethnicity/cultural background	
Hazarawal	479 (74)
Pakthun	133 (20.6)
Punjabi	20 (3.1)
Sindhi	1 (0.2)
Other	14 (2.2)
Select the designation of your job	
Consultant	92 (14.2)
Medical officer	103 (15.9)
Nurse	104 (16.1)
LHV	76 (11.7)
Medical tech/dispenser	173 (26.7)
Other	99 (15.3)
Country of professional education	
Pakistan	627 (96.9)
Foreign	20 (3.1)
Professional job experience	
< 5 years	14 (32.0)
5–10 years	48 (37.9)
> 10 years	95 (30.1)
Regularly work with patients	
Yes	621 (96.0)
No	26 (4.0)

Teaching/Training of Bioethics

The awareness of bioethics with the number of credit hours studied varies significantly across different healthcare professionals ($\chi^2 = 47.76$, $p < 0.001$). Respondents with different job categories reported different levels of exposure to ethics education during their

professional studies. In particular, a notable proportion of consultants (73.9%) nurses (72.1%) and medical technicians/dispensers (73.4%) reported receiving 1–5 hours of ethics training, while medical officers (41.7%) reported exposure to 6–10 hours of ethics education compared to other groups. LHVs had the highest proportion (40.8%) of professionals who did not study ethics formally. The perception of the relevance of teaching medical ethics to one's practice was not significantly different across different healthcare professionals ($\chi^2 = 8.51$, $p = 0.13$). The majority of respondents across all job categories expressed a strong opinion of the relevance of medical ethics education to their practice, with percentages ranging from 73.7–88.2%. Knowledge of the four principles of medical ethics showed a significant variation among healthcare professionals ($\chi^2 = 36.65$, $p < 0.001$). Consultants, medical officers, nurses and medical technicians/dispensers showed a higher awareness (over 85%) of these principles, while awareness was relatively lower among LHVs (67.1%) and other medical personnel (77.8%). The existence of a written code of ethics outlining ethical considerations in organizations showed a significant association with job categories ($\chi^2 = 23.58$, $p < 0.001$). A majority of consultants (94.6%), nurses (87.5%) and medical technicians/dispensers (91.3%) indicated the presence of a written code of ethics in their organizations. However, a significant proportion of medical officers (26.2%) reported the absence of such a code [Table 2].

Table 2

Awareness of bioethics/ Bioethics education of healthcare professionals. Includes valuable information about healthcare personnel's ethical teaching, perceived relevance of ethics training, awareness of medical ethical principles and organizational ethical guidelines. Chi-square analysis was applied to identify associations, and the *p*-values indicate the level of significance for each association.

Training/Teaching of Ethics	Characteristics	Job Category/Designation						Chi square	*p*-value
		Consultant (N = 92)	Medical officer (N = 103)	Nurse (N = 104)	LHV (N = 76)	Medical tech//Dispenser (N = 173)	Others (N = 99)		
During professional study, how many credit hours were there for ethics in your curriculum?	1–5 hours	68 (73.9)	39 (37.9)	75 (72.1)	25 (32.9)	127 (73.4)	70 (70.7)	47.764	< 0.001***
	6-10hours	19 (20.7)	43 (41.7)	11 (10.6)	14 (18.4)	17 (9.8)	15 (15.2)		
	> 10 hours	3 (3.3)	15 (14.6)	2 (1.9)	6 (7.9)	5 (2.9)	4 (4.0)		
	Unstudied	2 (2.2)	6 (5.8)	16 (15.4)	31 (40.8)	24 (13.9)	10 (10.1)		
How do you rate the relevance of the teaching/ training of medical ethics to your practice now?	< 6 (Weak)	16 (17.4)	24 (23.3)	27 (26.0)	9 (11.8)	33 (19.1)	26 (26.3)	8.508	0.130
	≥ 6 (Strong)	76 (82.6)	79 (76.7)	77 (74.0)	67 (88.2)	140 (80.9)	73 (73.7)		
Do know the four principles of medical ethics?	Yes	88 (95.7)	96 (93.2)	90 (86.5)	51 (67.1)	147 (85.0)	77 (77.8)	36.650	< 0.001***
	No	4 (4.3)	7 (6.8)	14 (13.5)	25 (32.9)	26 (15.0)	22 (22.2)		
Has your organization developed a written code of ethics that outlines what is considered ethical?	Yes	87 (94.6)	76 (73.8)	91 (87.5)	64 (84.2)	158 (91.3)	85 (85.9)	23.585	< 0.001***
	No	5 (5.4)	27 (26.2)	13 (12.5)	12 (15.8)	15 (8.7)	14 (14.1)		

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Ethical Issues in Various Aspects of Healthcare Practice

The frequency of encountering ethical situations in practice, finding answers to ethical questions and observing unethical decisions in practice was found to vary statistically significantly among healthcare professionals ($p < 0.001$). Responses varied across job categories, with the majority of respondents from different designations reporting that they encountered ethical situations "rarely" (57.6–68.2%). Some healthcare professionals, particularly nurses and medical technicians/dispensers, indicated encountering ethical situations "occasionally" (22.2–41.7%). In particular, a significant proportion of consultants (67.4%), nurses (40.4%) and other medical personnel (59.6%) expressed finding answers "Often" (50–75% of the time), while medical officers (31.1%), medical tech/dispenser (34.7%) and LHV are (39.5%) more likely to find answers "occasionally" (25–50% of the time). A significant number of healthcare professionals across different job categories reported observing unethical decisions "Rarely" (22.2–51.1%) and "Sometimes" (26.6–48.7%). However, nurses (49.0%) and consultants (26.1%) were more likely to encounter unethical decisions "Often" (49–50%) compared to other job

categories. The areas where healthcare personnel encountered ethical problems were "Religion", "Law", "Traditional and value", "Conflict of interest", "Financial" and "Other" areas. In particular, religious and legal aspects were prominently reported as areas of ethical concern. Moreover, preferred resources for finding answers to ethical questions varied, "Books", "Internet" and "Senior colleague" were the primary sources chosen by healthcare professionals. Senior colleagues were particularly preferred by a significant number of consultants, medical officers and medical technicians and dispensers. In addition, healthcare professionals also identified factors that prevented unethical practice such as "religion", "law", "traditional values" and "ethics teaching" as the most important influences that prevent unethical practices. It is noteworthy that "Ethics teaching" was highlighted as a factor by a significant proportion of consultants and medical officers [Table 3].

Table 3

Exploring various aspects of healthcare ethics among healthcare professionals. Includes a comprehensive overview of the ethics-related perceptions and practices among various healthcare personnel's, insight into their encounters with ethical situations, the frequency of finding answers to ethical questions and their observations of unethical decisions. Chi-square analysis was performed to identify potential associations, and the *p*-values indicate the level of significance for each association. In addition, the table explored the areas of ethical issues, sources sought for answers to ethical questions and factors that deter unethical practice where chi-square analysis was not performed because the nature of the question (multiple responses) was not suitable for meaningful chi-square analysis.

Ethical issues in healthcare practice	Job Category/Designation						Chi square	*p*-value
	Consultant (N = 92)	Medical officer (N = 103)	Nurse (N = 104)	LHV (N = 76)	Medical tech/Dispenser (N = 173)	Others (N = 99)		
How often do you encounter an ethical situation in your practice?							61.066	< 0.001***
Rare (once a year)	53 (57.6)	40 (38.8)	65 (62.5)	39 (51.3)	118 (68.2)	50 (50.5)		
Occasional (once every 6 months)	16 (17.4)	43 (41.7)	13 (12.5)	20 (26.3)	40 (23.1)	22 (22.2)		
Often (once every month)	12 (13.0)	10 (9.7)	22 (21.2)	9 (11.8)	11 (6.4)	19 (19.2)		
Frequent (once every week)	11 (12.0)	10 (9.7)	4 (3.8)	8 (10.5)	4 (2.3)	8 (8.1)		
How often do you find an answer to your question on ethical issues?							60.334	< 0.001***
Rare (< 25% of the time)	15 (16.3)	20 (19.4)	26 (25.0)	17 (22.4)	35 (20.2)	11 (11.1)		
Occasional (25–50% of the time)	12 (13.0)	32 (31.1)	30 (28.8)	30 (39.5)	60 (34.7)	20 (20.2)		
Often (50–75% of the time)	62 (67.4)	37 (35.9)	42 (40.4)	18 (23.7)	67 (38.7)	59 (59.6)		
Frequent (> 75% of the time)	3 (3.3)	14 (13.6)	6 (5.8)	11 (14.5)	11 (6.4)	9 (9.1)		
How often do you observe an unethical decision in your practice?							94.133	< 0.001***
Rare (once a year)	47 (51.1)	46 (44.7)	25 (24.0)	24 (31.6)	86 (49.7)	22 (22.2)		
Occasional (once every 6 months)	14 (15.2)	26 (25.2)	16 (15.4)	37 (48.7)	46 (26.6)	35 (35.4)		
Often (once every month)	24 (26.1)	16 (15.5)	51 (49.0)	11 (14.5)	29 (16.8)	33 (33.3)		
Frequent (once every week)	7 (7.6)	15 (14.6)	12 (11.5)	4 (5.3)	12 (6.9)	9 (9.1)		
In what area do you encounter ethical issues? check all that is applicable to your practice								
Religion	18 (19.6)	50 (48.5)	9 (8.7)	60 (78.9)	103 (59.5)	39 (39.4)		
Law	14 (15.2)	47 (45.6)	8 (7.7)	59 (77.6)	96 (55.5)	30 (30.3)		
Traditional and value	43 (46.7)	34 (33.0)	22 (21.2)	26 (34.2)	83 (47.9)	20 (20.2)		

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Ethical issues in healthcare practice	Job Category/Designation						Chi square	*p*-value
	Consultant (N = 92)	Medical officer (N = 103)	Nurse (N = 104)	LHV (N = 76)	Medical tech/Dispenser (N = 173)	Others (N = 99)		
Conflict of interest	28 (30.4)	39 (37.9)	57 (54.8)	19 (25.0)	47 (27.2)	59 (59.6)		
Financial	10 (10.9)	32 (31.1)	22 (21.2)	51 (67.1)	74 (42.8)	34 (34.3)		
Other	6 (6.5)	5 (4.9)	3 (2.9)	2 (2.6)	3 (1.7)	4 (4.0)		
Where do usually you look for an answer to your ethical question? check all what is applicable to your practice								
Books	16 (17.4)	51 (49.5)	22 (21.2)	36 (47.4)	72 (41.6)	27 (27.3)		
Internet	18 (19.6)	46 (44.7)	36 (34.6)	26 (34.2)	53 (30.6)	27 (27.3)		
Friends								
Senior colleague	63 (68.5)	56 (54.4)	53 (50.9)	45 (59.2)	117 (67.6)	75 (75.8)		
Elsewhere	10 (10.9)	14 (13.6)	2 (1.9)	14 (18.4)	14 (8.1)	11 (11.1)		
What mostly stops you from unethical practice? check all what is applicable to you								
Religion	24 (26.1)	61 (59.2)	65 (62.5)	51 (67.1)	106 (61.3)	60 (60.6)		
Law	11 (11.9)	26 (25.2)	6 (5.8)	24 (31.2)	44 (25.4)	17 (14.1)		
Traditional and value	14 (15.2)	38 (36.9)	21 (20.2)	40 (52.6)	58 (33.5)	32 (32.3)		
Ethics teaching	69 (75.0)	58 (56.3)	31 (29.8)	45 (59.2)	102 (58.9)	41 (41.4)		
Other	6 (6.5)	4 (3.9)	2 (1.9)	2 (2.6)	2 (1.2)	4 (4.0)		

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Ethical Dilemmas in Healthcare Practice

There was a significant relationship between the designation of healthcare professionals and the perception of treating children without parental consent ($\chi^2 = 101.16$, $p < 0.001$). Cramer's V (0.4) suggests a moderate association. This suggests that there is a noticeable connection between job category/designation and the perception of this ethical issue among healthcare personnel. In particular, the majority of respondents from different job categories, from 50.0–91.9%, "agree" that children should not be treated without parental consent. The association between the designation of healthcare professionals and the intention to inform close relatives of a patient's condition was also found to be significant ($\chi^2 = 98.68$, $p < 0.001$), with a Cramer's V (0.39) indicating a moderate association. Across job categories, a significant proportion of respondents (41.3–92.1%) "agree" that close relatives should be informed about the patient's condition. The relationship between job categories and the opinion of refusing to examine a female patient when a female practitioner is unavailable was also statistically significant ($\chi^2 = 60.56$, $p < 0.001$). The strength of association measured by Cramer's V (0.31) indicates a moderate association. Responses ranged from 21.2–80.8% "Agree" across job categories. However, the association between job categories/designations and the perception of whether doctors can refuse to perform an abortion if the law allows it, opinions about the

finality of healthcare professionals' decisions in cases of patient/family disagreement, the intention to help a patient die regardless of the illness and the assessment of healthcare professionals serving hard-to-reach areas were also statistically significant but the strength of association measured by Cramer's V suggests a weak to the moderate association [Table 4].

Table 4

Ethical dilemmas and perspectives in healthcare practice among healthcare professionals. Includes a holistic view and insight of healthcare personnel's ethical perspective on various scenarios for understanding their values, beliefs and attitudes towards critical ethical dilemmas in healthcare practice. The Chi-Square test examined the associations between job categories and ethical views, and Cramer's V values were calculated to determine the strength of these associations. The *p*-values indicated the statistical significance of the associations.

Ethical dilemmas in healthcare practice	Job Category/Designation						Chi Square	Cramer's V	*p*-value
	Consultant (N = 92)	Medical officer (N = 103)	Nurse (N = 104)	LHV (N = 76)	Medical tech/Dispenser (N = 173)	Others (N = 99)			
Children should not be treated without the consent of their parents							101.161	0.4	< 0.001***
Agree	83 (90.2)	90 (87.4)	52 (50.0)	72 (94.7)	159 (91.9)	75 (75.8)			
Disagree	9 (9.8)	13 (12.6)	52 (50.0)	4 (5.3)	14 (8.1)	24 (24.2)			
Close relatives should be told about the patient's condition							98.683	0.39	< 0.001***
Agree	78 (84.8)	75 (72.8)	43 (41.3)	70 (92.1)	153 (88.4)	72 (72.7)			
Disagree	14 (15.2)	28 (27.2)	61 (58.7)	6 (7.9)	20 (11.6)	27 (27.3)			
If the law allows abortion doctors cannot refuse to do an abortion							22.983	0.19	< 0.001***
Agree	14 (15.2)	36 (35.0)	11 (10.6)	22 (28.9)	36 (20.8)	21 (21.2)			
Disagree	78 (84.8)	67 (65.0)	93 (89.4)	54 (71.1)	137 (79.2)	78 (78.8)			
If there is a disagreement between patients/families about treatment, healthcare professional decision should be final							33.181	0.23	< 0.001***
Agree	66 (71.7)	48 (46.6)	77 (74.0)	43 (56.6)	109 (63.0)	79 (79.8)			
Disagree	26 (28.3)	55 (53.4)	27 (26.0)	33 (43.4)	64 (37.0)	20 (20.2)			
If a patient wishes to die, he or she should be assisted in doing so no matter what his/her illness							15.904	0.16	0.007**
Agree	8 (8.7)	21 (20.4)	11 (10.6)	6 (7.9)	10 (5.8)	11 (11.1)			
Disagree	84 (91.3)	82 (79.6)	93 (89.4)	70 (92.1)	163 (94.2)	88 (88.9)			
Given a situation, a male doctor needs to examine a female patient & a female attendant is not available; in your opinion is it ethical to refuse the patient?							60.568	0.31	< 0.001***
Agree	35 (38.0)	54 (52.4)	82 (78.8)	46 (60.5)	87 (50.3)	80 (80.8)			
Disagree	57 (62.0)	49 (47.6)	22 (21.2)	30 (39.5)	86 (49.7)	19 (19.2)			
Do you think healthcare professionals must serve hard-to-reach areas and underserved populations?							36.655	0.24	< 0.001***
Agree	82 (89.1)	77 (74.8)	75 (72.1)	71 (93.4)	159 (91.9)	89 (89.9)			

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Ethical dilemmas in healthcare practice	Job Category/Designation						Chi Square	Cramer's V	*p*-value
	Consultant (N = 92)	Medical officer (N = 103)	Nurse (N = 104)	LHV (N = 76)	Medical tech/Dispenser (N = 173)	Others (N = 99)			
Disagree	10 (10.9)	26 (25.2)	29 (27.9)	5 (6.6)	14 (8.1)	10 (10.1)			
*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$									

Specific Issues in Medical Ethics

There was a significant association between job categories/designations of healthcare professionals and acceptance of gifts from patients ($\chi^2 = 35.81$, $p = 0.002$). Opinions varied across job categories, with the majority finding accepting gifts "unethical" (7.8–85.6%). The association between job categories and receipt of gifts from pharmaceutical companies was significant ($\chi^2 = 27.37$, $p = 0.026$). The majority of respondents in various job categories considered it to be "unethical" (62.1–84.4%). The chi-square test indicated a significant relationship between job categories/designations and acceptance of remuneration for referrals ($\chi^2 = 66.46$, $p < 0.001$). Views (weak to moderate association) on this question varied across job categories, with the majority rating this practice as "unethical" (39.4–69.9%). The association between job categories and advising patients to purchase specific company products was also statistically significant ($\chi^2 = 45.71$, $p < 0.001$). Respondents across job categories tended to view this practice as "unethical" (41.4–72.3%). The chi-square test also revealed a significant relationship between job categories and discussion of patient problems in public places ($\chi^2 = 76.37$, $p < 0.001$). The strength of association measured by Cramer's V (0.21) suggests a weak to moderate association. Opinions varied across job categories, with most considering discussing patient issues publicly as "unethical" (40.4–73.9%). Furthermore, the association between job categories and failure to disclose medical errors was also statistically significant ($\chi^2 = 31.17$, $p = 0.008$) and the responses varied across job categories, with "unethical" opinions ranging from 43.4–68.5%. There was a significant association between job categories and not fully informing patients about treatment ($\chi^2 = 39.91$, $p < 0.001$). Most respondents considered it "unethical" (51.5–82.6%). Moreover, the association between job categories and collection of donations from patients was also significant ($\chi^2 = 37.62$, $p = 0.001$) Opinions varied across job categories, with most considering collecting donations from patients as "unethical" (54.8–73.9%). Interestingly, the chi-square test showed no significant relationship between job categories/designations and prioritization of patients with recommendations for treatment ($\chi^2 = 22.59$, $p = 0.093$). However, surprisingly, there was a differing opinion on this question across job categories, and most healthcare professionals considered it "ethical". The association between job categories and performing tasks for personal financial benefit was significant ($\chi^2 = 47.65$, $p < 0.001$) and most respondents considered performing tasks for personal financial gain to be "unethical" (51.9–80.3%). In addition, the strength of association measured by Cramer's V suggests weak associations with differing opinions on these questions across job categories [Table 5].

Table 5

Healthcare professionals' perspectives on specific issues in medical ethics. Includes healthcare personnel's attitudes and views on various specific ethical issues. Chi-square analysis was used to assess associations. Cramer's V-values indicate the strength of association, and *p*-values indicate statistical significance.

Specific issues in medical ethics	Job Category/Designation						Chi square	Cramer's V	*p*-value
	Consultant (N = 92)	Medical officer (N = 103)	Nurse (N = 104)	LHV (N = 76)	Medical tech/Dispenser (N = 173)	Others (N = 99)			
Accepting gifts from patients							35.812	0.14	0.002**
Ethical	8 (8.7)	8 (7.8)	4 (3.8)	3 (3.9)	10 (5.8)	7 (7.1)			
Somewhat unethical	7 (7.6)	22 (21.4)	8 (7.7)	7 (9.2)	11 (6.4)	5 (5.1)			
Unethical	74 (80.4)	8 (7.8)	89 (85.6)	63 (82.9)	147 (85)	86 (86.9)			
Uncertain	3 (3.3)	65 (63.1)	3 (2.9)	3 (3.9)	5 (2.9)	1 (1.0)			
Accepting gifts from pharmaceutical company							27.374	0.12	0.026*
Ethical	8 (8.7)	11 (10.7)	6 (5.8)	7 (9.2)	12 (6.9)	8 (8.1)			
Somewhat unethical	10 (10.9)	21 (20.4)	13 (12.5)	7 (9.2)	9 (5.2)	12 (12.1)			
Unethical	73 (79.3)	64 (62.1)	83 (79.8)	61 (80.3)	146 (84.4)	76 (76.8)			
Uncertain	1 (1.1)	7 (6.8)	2 (1.9)	1 (1.3)	6 (3.5)	3 (3.0)			
Accepting fee against referral to a specific doctor							66.460	0.19	< 0.001***
Ethical	9 (9.8)	15 (14.6)	8 (7.7)	15 (19.7)	22 (12.7)	16 (16.2)			
Somewhat unethical	14 (15.2)	11 (10.7)	37 (35.6)	10 (13.2)	20 (11.6)	37 (37.4)			
Unethical	62 (67.4)	70 (68.0)	54 (51.9)	51 (67.1)	121 (69.9)	39 (39.4)			
Uncertain	7 (7.6)	7 (6.8)	5 (4.8)	0 (0.0)	10 (5.8)	7 (7.1)			
Advising patients to buy specific company product							45.710	0.15	< 0.001***
Ethical	8 (8.9)	14 (13.6)	12 (11.5)	10 (13.2)	16 (9.2)	13 (13.1)			
Somewhat unethical	16 (17.4)	19 (18.4)	35 (33.7)	12 (15.8)	20 (11.6)	36 (36.4)			
Unethical	64 (69.6)	62 (60.2)	50 (48.1)	49 (64.5)	125 (72.3)	41 (41.4)			
Uncertain	4 (4.3)	8 (7.8)	7 (6.7)	5 (6.6)	12 (6.9)	9 (9.1)			

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Specific issues in medical ethics	Job Category/Designation						Chi square	Cramer's V	*p*-value
	Consultant (N = 92)	Medical officer (N = 103)	Nurse (N = 104)	LHV (N = 76)	Medical tech/Dispenser (N = 173)	Others (N = 99)			
Discussing patient's issues in a public place							76.377	0.21	< 0.001***
Ethical	9 (9.8)	13 (12.6)	13 (12.5)	11 (14.5)	10 (5.8)	14 (14.1)			
Somewhat unethical	11 (12.0)	19 (18.4)	46 (44.2)	7 (9.2)	29 (16.8)	7 (7.1)			
Unethical	68 (73.9)	63 (61.2)	42 (40.4)	49 (64.5)	125 (72.3)	42 (42.4)			
Uncertain	4 (4.3)	8 (7.8)	3 (2.9)	9 (11.8)	9 (5.2)	7 (7.1)			
Failing to disclose all significant medical errors to affected patients							31.174	0.13	0.008**
Ethical	6 (6.5)	16 (15.5)	6 (5.8)	5 (6.6)	12 (6.9)	9 (9.1)			
Somewhat unethical	16 (17.4)	24 (23.3)	30 (28.8)	21 (27.6)	38 (22.0)	23 (23.2)			
Unethical	63 (68.5)	52 (50.5)	55 (52.9)	36 (47.4)	101 (58.4)	43 (43.4)			
Uncertain	7 (7.6)	11 (10.7)	13 (12.5)	14 (18.4)	22 (12.7)	24 (24.2)			
Not fully informing patients about the benefits and risks of a producer or course of treatment									
Ethical	7 (7.6)	24 (23.3)	7 (6.7)	10 (13.2)	19 (11.0)	11 (11.1)	39.916	0.14	< 0.001***
Somewhat unethical	6 (6.5)	18 (17.5)	16 (15.4)	13 (17.1)	21 (12.1)	20 (20.2)			
Unethical	76 (82.6)	53 (51.5)	77 (74.0)	44 (57.9)	116 (67.1)	59 (59.6)			
Uncertain	3 (3.3)	8 (7.8)	4 (3.8)	9 (11.8)	17 (9.8)	9 (9.1)			
Collecting donations from patients									
Ethical	4 (4.3)	17 (16.5)	7 (6.7)	10 (13.2)	15 (8.7)	10 (10.1)	37.627	0.14	< 0.001***
Somewhat unethical	8 (8.7)	16 (15.5)	32 (30.8)	14 (18.4)	25 (14.5)	14 (14.1)			
Unethical	68 (73.9)	61 (59.2)	57 (54.8)	47 (61.8)	124 (71.7)	61 (61.6)			
Uncertain	12 (13.0)	9 (8.7)	8 (7.7)	5 (6.6)	9 (5.2)	10 (10.1)			
Patients with recommendations or influential references should be prioritized for treatment							22.595	0.11	0.093
Ethical	62 (67.4)	72 (69.9)	84 (80.8)	52 (68.4)	119 (68.8)	84 (84.8)			

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Specific issues in medical ethics	Job Category/Designation						Chi square	Cramer's V	*p*-value
	Consultant (N = 92)	Medical officer (N = 103)	Nurse (N = 104)	LHV (N = 76)	Medical tech/Dispenser (N = 173)	Others (N = 99)			
Somewhat unethical	6 (6.5)	6 (5.8)	6 (5.8)	5 (6.6)	9 (5.2)	3 (3.0)			
Unethical	18 (19.6)	15 (14.6)	12 (11.5)	16 (21.1)	36 (20.8)	7 (7.1)			
Uncertain	6 (6.5)	10 (9.7)	2 (1.9)	3 (3.9)	9 (5.2)	3 (3.0)			
The healthcare professional is performing his/her duty from the personal monetary benefit							47.659	0.16	< 0.001***
Ethical	12 (13.0)	20 (19.4)	18 (17.3)	15 (19.7)	18 (10.4)	19 (19.2)			
Somewhat unethical	5 (5.4)	17 (16.5)	24 (23.1)	7 (9.2)	12 (6.9)	13 (13.1)			
Unethical	67 (72.8)	56 (54.4)	54 (51.9)	51 (67.1)	139 (80.3)	59 (59.6)			
Uncertain	8 (8.7)	10 (9.7)	8 (7.7)	3 (3.9)	4 (2.3)	8 (8.1)			
*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$									

General Characteristics and Bioethics Awareness Scores

Overall, the mean awareness score for "Ethics in Healthcare Practice" was 8.0 ± 2.38, while the mean score for "Specific Issues in Medical Ethics" was 32.0 ± 5.21. The result revealed a significant influence of gender on awareness scores in "Ethics in Healthcare Practice" ($p = 0.004$). Specifically, male participants showed slightly higher awareness scores (8.21 ± 2.32) compared to their female counterparts (7.73 ± 2.45). However, gender did not affect the awareness scores in "Specific problems in medical ethics" ($p = 0.482$). Age showed a significant relationship with awareness scores in both "Ethics in Healthcare Practice" and "Specific Issues in Medical Ethics". In particular, participants aged 41 or older showed the highest awareness scores in both categories. We found that ethnicity/cultural background significantly influenced awareness scores in both "Ethics in Healthcare Practice and "Specific Issues in Medical Ethics". Different ethnic backgrounds were associated with varying levels of ethical awareness among participants. Although job categories/designation of healthcare professionals did not significantly affect the awareness scores in "Ethics in Healthcare Practice" (p = 0.487), they showed a notable impact on the awareness scores in "Specific Issues in Medical Ethics" (p < 0.001). This finding emphasizes the different perspectives that different health roles bring. Occupational settings where healthcare professionals were employed or carried out their professional duties showed a strong association with awareness scores in both categories ($p < 0.001$). Participants working in BHU and private hospitals showed the highest awareness scores, suggesting potential differences in ethical awareness based on healthcare settings. Surprisingly, the country of professional education did not significantly affect awareness scores in either category. While professional experience showed a significant influence on awareness scores in both "Ethics in Healthcare Practice" and "Specific Issues in Medical Ethics" ($p < 0.001$). Participants with more than 10 years of experience showed the highest awareness scores, reflecting the potential effect of accumulated experience. Regular work with patients did not significantly affect the awareness scores in any of the categories. Furthermore, awareness scores were significantly influenced by the presence of a written code of ethics in the organization. This finding emphasizes the role of organizational guidelines in promoting ethical awareness among healthcare professionals [Table 6].

Table 6

Relationship of ethical dilemmas in healthcare practice and specific issues in medical ethics' awareness scores (mean, SD) by selected socio-demographic and profession-related information. Includes the health personnel's characteristics and their indices of bioethics awareness scores and specific medical issues awareness scores. The mean awareness score (mean ± SD) for each variable is shown, with statistical significance indicated by "Test" and "*P*-value." It covers gender, age groups, ethnic background, job titles, place of employment, country of education, work experience levels, patient interaction and presence of organization codes.

Characteristics	Awareness Scores: Ethics in healthcare practice			Awareness Scores: Specific issues in medical ethics		
	(Mean ± SD)	Test	*P* value	(Mean ± SD)	Test	*P* value
Overall	8.0 ± 2.38			32.0 ± 5.21		
Gender		44728.5a	0.004**		49688.0a	0.482
Male	8.21 ± 2.32			31.7 ± 5.47		
Female	7.73 ± 2.45			32.3 ± 4.81		
Age		45.86b	< 0.001***		12.06b	0.002**
20–30	8.09 ± 2.28			30.7 ± 5.80		
31–40	7.40 ± 2.51			32.3 ± 4.94		
41 0r above	8.98 ± 1.86			32.7 ± 4.73		
Ethnicity/cultural background		16.0b	0.003**		31.4b	< 0.001***
Hazarawal	8.12 ± 2.26			32.5 ± 5.17		
Pakthun	7.30 ± 2.73			30.1 ± 5.33		
Punjabi	9.10 ± 2.29			31.5 ± 3.41		
Sindhi	8.000 ± .			30.00 ± .		
Other	8.71 ± 1.68			32.4 ± 2.62		
Select the designation of your job		0.483b	0.487		15.3b	< 0.001***
Consultant	7.95 ± 2.01			33.3 ± 5.62		
Medical officer	7.78 ± 2.84			30.5 ± 6.00		
Nurse	6.75 ± 2.46			31.8 ± 4.98		
LHV	8.68 ± 2.22			31.8 ± 4.84		
Medical tech/dispenser	8.24 ± 2.19			33.3 ± 4.52		

[a]Mann-Whitney Test, [b]Kruskal Wallis Test. Statistically significant at *p* value; *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Characteristics	Awareness Scores: Ethics in healthcare practice			Awareness Scores: Specific issues in medical ethics		
	(Mean ± SD)	Test	*P* value	(Mean ± SD)	Test	*P* value
Other	8.62 ± 2.05			30.4 ± 4.68		
Place of posting		145.6b	< 0.001***		207.2b	< 0.001***
BHU	9.25 ± 0.94			32.1 ± 3.36		
RHC	6.25 ± 2.38			33.1 ± 4.97		
THQ	8.40 ± 2.32			26.6 ± 5.74		
DHQ	7.37 ± 2.45			31.8 ± 3.03		
Private Hospital	8.03 ± 1.49			35.7 ± 5.46		
Country of professional education		5587.0a	0.271		5562.5a	0.388
Pakistan	7.98 ± 2.38			32.0 ± 5.22		
Foreign	8.40 ± 2.47			31.3 ± 4.70		
Professional job experience		49.0b	< 0.001***		27.2	< 0.001***
< 5 years	7.75 ± 2.43			30.5 ± 5.27		
5–10 years	7.45 ± 2.47			32.4 ± 5.45		
> 10 years	8.95 ± 1.90			33.1 ± 4.43		
Regularly work with patients		7234.5a	0.353		6883.0a	0.201
Yes	7.98 ± 2.39			32.1 ± 5.23		
No	8.46 ± 2.13			31.2 ± 4.58		
Has your organization developed a written code of ethics that outlines what is considered ethical?		16977.0a	< 0.001***		22415.0a	0.028*
Yes	8.16 ± 2.35			32.1 ± 5.28		
No	6.93 ± 2.35			31.8 ± 4.72		

[a]Mann-Whitney Test, [b]Kruskal Wallis Test. Statistically significant at *p* value; *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Discussion

Awareness of bioethics among healthcare personnel is essential to ensure ethical practice in healthcare. This is most likely the first research that evaluates the awareness and practice of healthcare professionals working in both public and private hospitals regarding bioethics and ethical issues in healthcare in this region. The current research highlights differences in the understanding and perception of bioethics among these healthcare professionals.

The current research indicated that both physicians and non-physicians need to know more about healthcare ethics. The inability to decide or commit to a certain response and lack of understanding or experience in that field may all be reasons why many respondents disagreed answer to several questions. Consultants, doctors, nurses, LHVs, medical technicians/dispensers and other medical personnel all play different roles in patient care and their perspective on ethical challenges varies accordingly. The study highlighted that nurses had relatively lower awareness scores compared to doctors. This discrepancy can potentially be attributed to variations in education and training received by different categories of healthcare personnel [31]. This suggests a potential gap in teaching and exposure to ethical principles during professional education as considerable variation was observed in credits awarded to ethics during professional studies. When comparing the findings of this study with the current literature, it is noteworthy that the level of participation in postgraduate training in medical ethics seems to be much lower in comparison to the academic pursuit experienced during undergraduate studies [14, 29]

The findings of ethical practice revealed intriguing insights into the frequency with which ethical challenges are encountered, sources of guidance sought during ethical dilemmas, and the impact of situational factors on unethical decisions. Healthcare professionals reported frequently encountering ethical situations. This is substantially lower than the previous study [32]. According to the previous finding [27], medical professionals routinely face unethical practices and ethical dilemmas in the course of their daily job and report feeling unprepared to cope with them. Healthcare professionals sought the assistance of their more experienced colleagues, searched the internet, or read books to find solutions to these conundrums in the present study. The same scenario has also been reported in other investigations [33]. In particular, the study reflected the findings from previous research [27, 34] that healthcare personnel often face ethical challenges related to religion, law, traditional values, conflicts of interest and financial considerations. This emphasizes the universality of these ethical dilemmas across different health contexts.

In addition, the current research highlights a varying degree of awareness among healthcare personnel about various ethical issues in practice. While some issues appear to have a higher level of awareness, others appear to be less recognized. This variation can be attributed to the complexity and diversity of ethical challenges that arise in the healthcare system. By comparing our findings with existing literature [28, 29] there were several consistencies and discrepancies. It is noteworthy that opinions vary significantly across different roles in the healthcare system. The data highlight different attitudes to ethical help for a patient who wants to die, with just doctors showing some consensus compared to other healthcare professionals. Monsudi et al.[35] and Imran et al.[10] posited that variations in the level of professional training contribute to divergent perspectives among healthcare professionals.

Moreover, this study also identified some new aspects which are also somewhat in the same direction as existing literature [36–39]. For example, the ethical challenge of accepting gifts from pharmaceutical companies and patients, discussing patient information publicly, accepting fees against referral to specific doctors, advising patients to buy specific company products, failing to notify patients about treatment advantages and risks, the performance of tasks for personal financial gain and failing to disclose medical errors emerged as a significant concern among healthcare professionals. This may reflect evolving practices and increased awareness of potential conflicts of interest. In addition, the finding indicates that a significant proportion of participants believed that healthcare professionals should prioritize patients with influential references, as this challenges the principle of fair care provision specially to emergency patients [40].

The demographic distribution revealed interesting patterns in ethical awareness scores. Gender appears to have a modest influence on ethical awareness scores. Age and professional experience both play a more significant role, as participants aged 41 and older show significantly higher awareness scores, while healthcare professionals with more than 10 years of experience show the highest scores. This emphasizes the value of accumulated experience in shaping ethical understanding and practice in healthcare which are in agreement with previous findings [41, 42], indicating potential cumulative learning effects over time. Variations emerged when considering ethnic background and culture. This suggests that cultural nuances and values can influence ethical perspectives within the healthcare system [43, 44]. Furthermore, in terms of designation, consultants and medical technologists/dispensers show the highest awareness scores, possibly due to their extensive involvement in ethical practice and patient care.

The work place has a significant impact, with professionals in private hospitals scoring significantly higher in ethical awareness, potentially reflecting a greater emphasis on ethical considerations in private healthcare settings. Moreover, the presence of a written code of ethics in hospitals corresponds to higher ethical awareness scores. This highlights the positive influence of clear ethical guidelines on professionals' understanding and recognition of ethical issues. Administrators' involvement in ethical practice by developing a written code of ethics that outlines what is considered ethical can strengthen ethical insights among healthcare professionals [45].

The findings of this study have practical implications for both health institutions and decision-makers. First and foremost, the study emphasizes the importance of standardized and comprehensive bioethics education and targeted training for all healthcare providers

with particular attention to non-physician training programs. Incorporating regular ethics workshops and case-based discussions can empower healthcare professionals to navigate complex ethical dilemmas more effectively, ultimately leading to improved patient care. Efforts would be made to bridge the awareness gap between different job categories. Furthermore, the data suggest a need for a written code of ethics in job setting and clearer guidelines for certain ethical issues.

Although this study provides valuable insights, there is a limitation that a short geographical area was considered which would be extended nationwide. Future research in this area could explore the impact of tailored bioethics training on awareness and ethical decision-making among healthcare professionals. Longitudinal studies can also examine whether increased bioethics teaching translates into improved ethical practice over time in clinical settings.

Conclusion

In conclusion, the findings emphasized different degrees of awareness and compliance with ethical principles within different health roles. While a significant proportion of participants had a strong awareness of bioethical principles, there were areas of concern, particularly regarding ethical issues. The influence of factors such as age, professional experience and organizational support became evident in shaping individuals' ethical awareness and decisions. Our study emphasizes the need for targeted continuous training and the design of robust ethical guidelines within healthcare institutions to increase ethical awareness. Further research may explore the effectiveness of training programs and their impact on improving ethical practice across different healthcare settings in Pakistan.

Abbreviations

LHV: Lady Health Visitor; BHU: Basic Health Unit; RHC: Rural Health Center; THQ: Tehsil Headquarter Hospital; DHQ: District Headquarter Hospital; HCWs: Healthcare workers; WHO: World Health Organization; OBMLA: Omani physicians’ bioethics and medical law awareness; SD: Standard deviation.

Declarations

Authors Contribution

M. Ali, A. Rehman, D. Wajid, Abdullah, and M. Ateeb were remained involved in data collection from all hospitals. M. Junaid, E. Altaf and A. Mehmood interpreted and analyzed the data. M. Ateeb and Ijaz ul Haq wrote manuscript and prepared draft according to the checklist for the cross-sectional study. S.A. Zakki designed the study, reviewed and approved the final draft of manuscript.

Ethical Standards Disclosure

This study was conducted according to the guidelines laid down in the Declaration of Helsinki and all procedures involving research study participants were approved by the ethical committee of The University of Haripur, Khyber Pakhtunkhwa, Pakistan (Approval number: UOH/DASR/2023/1382). Written informed consent was obtained from all subjects.

Conflict of Interest:

All authors declared no conflict of interest related to this study.

Consent for Publication

Not applicable.

Data Availability Statement

Data will be available upon request to the corresponding author.

Funding Source

There is no financial support provided for this research.

Acknowledgments

N/A.

References

1. Younus Al-Rawee R, Mohamed Basheer Alsabea W, Fakhri Hameed O. Medical Ethics Knowledge and Awareness Assessment Among Dentists in Nineveh Governorate (Cross Sectional Study). Int J Clin Oral Maxillofac Surg. 2020;6(2):26.
2. Albar MA, London F. Principles of Islamic Medical Ethics. 2019;(4):1–5.
3. Pollard CL. What is the right thing to do: use of a relational ethic framework to guide clinical decision-making. Int J Caring Sci. 2015;8(2).
4. Rheinsberg Z, Parsa-Parsi R, Kloiber O, Wiesing U. Medical oath: use and relevance of the Declaration of Geneva. A survey of member organizations of the World Medical Association (WMA). Med Heal Care Philos. 2018 Jun 1;21(2):189–96.
5. Plaiasu MC, Alexandru DO, Nanu CA. Physicians' legal knowledge of informed consent and confidentiality. A cross-sectional study. BMC Med Ethics. 2022 Dec 1;23(1):1–9.
6. Varkey B. Principles of Clinical Ethics and Their Application to Practice. Med Princ Pract. 2021 Feb 17;30(1):17–28.
7. Kadivar M, Manookian A, Asghari F, Niknafs N, Okazi A, Zarvani A. Ethical and legal aspects of patient's safety: a clinical case report. J Med Ethics Hist Med. 2017 Dec 1;10:15.
8. Tafesse N, Samuel A, Geta A, Desalegn F, Gebru L, Tadele T, et al. Clinical ethical practice and associated factors in healthcare facilities in Ethiopia: a cross-sectional study. BMC Med Ethics. 2022 Dec 1;23(1):1–12.
9. Ulrich CM, Taylor C, Soeken K, O'Donnell P, Farrar A, Danis M, et al. Everyday ethics: Ethical issues and stress in nursing practice. J Adv Nurs. 2010 Nov;66(11):2510–9.
10. Imran N, Ijaz Haider I, Jawaid M, Mazhar N, Karachi -Pakistan E. Health Ethics Education: Knowledge, Attitudes and Practice of Healthcare Ethics among In- Terns and Residents in Pakistan. J Postgrad Med Inst. 2014;28(4).
11. Al-Shehri E, Siddiqui AF, Khalil SUN. Knowledge, attitude and practice of medical ethics among resident physicians of specialty certificate in Aseer Province, Saudi Arabia. J Liaquat Univ Med Heal Sci. 2020 Jan 1;19(1):48–54.
12. Subramanian T, Mathai AK, Kumar N. Knowledge and practice of clinical ethics among healthcare providers in a government hospital, Chennai. Indian J Med Ethics. 2013;10(2):96–100.
13. Haddad LM, Geiger RA. Nursing Ethical Considerations. StatPearls. 2022 Aug 22;
14. AbuAbah F, Alwan A, Al-Jahdali Y, Al Shaikh A, Alharbi A, AL-Jahdali H. Common medical ethical issues faced by healthcare professionals in KSA. J Taibah Univ Med Sci. 2019 Oct 1;14(5):412–7.
15. Tripathi R, Ezaldein HH, Rajkumar K, Bordeaux JS, Scott JF. Characteristics of State and Federal Malpractice Litigation of Medical Liability Claims for Keratinocyte Carcinoma, 1968 to 2018. JAMA dermatology. 2019 Jul 1;155(7):812–8.
16. Farhan Ahmed Majeed, Nilofar Mustafa, Abdul Rehman Azeem MWS. Review Article Awareness of Medical Ethics in Undergraduate Medical Students- a. Pak Armed Forces Med J 2018; 68 664-70. 2018;68(3).
17. Javaeed A. Targeted need's assessment: Medical ethics in MBBS curriculum of Pakistan. Pakistan J Med Sci. 2019 Sep 1;35(5):1253.
18. Brooks L, Bell D. Teaching, learning and assessment of medical ethics at the UK medical schools. J Med Ethics. 2017 Sep 1;43(9):606–12.
19. Ahmed Majeed F, Waqar Sharif M, Rehman Azeem A, Mustafa N, Farhan N, Fatima NE, et al. Awareness of medical ethics among undergraduate medical students in a private medical school: A cross sectional survey. pafmj.org. 2020;70:37–44.
20. Jafree SR, Zakar R, Fischer F, Zakar MZ. Ethical violations in the clinical setting: The hidden curriculum learning experience of Pakistani nurses Ethics in Clinical Practice. BMC Med Ethics. 2015 Mar 19;16(1):1–11.
21. Bashir Ahmed. Organizational ethics and job satisfaction: Evidence from Pakistan. AFRICAN J Bus Manag. 2012 Feb 29;6(8):2966–73.
22. Irshad R, Ateeb M, Bibi A, Asif M, Jabbar S. Assessment of Knowledge and practice about needle stick injury among nurses at nishtar hospital in Multan; A hospital based cross-sectional study. Int J Nat Med Heal Sci. 2023 Mar 30;2(2):27–34.
23. Muhammad Q, Eiman H, Fazal F, Ibrahim M, Gondal MF, Muhammad Q, et al. Healthcare in Pakistan: Navigating Challenges and Building a Brighter Future. Cureus. 2023 Jun 10;15(6).

24. Shaikh A, Humayu N. Medical Ethics in Undergraduate Medical Education in Pakistan: Towards a Curricular Change. In: Contemporary Issues in Bioethics. InTech; 2012.
25. Mckay K, Practice SNJ of NE and, 2012 U. Bridging the gap between doctors and nurses. academia.edu. 2012;
26. Tiruneh MA, Ayele BT. Practice of code of ethics and associated factors among medical doctors in Addis Ababa, Ethiopia. PLoS One. 2018 Aug 1;13(8):e0201020.
27. Al-Busaidi AS, Ganesh A, Al-Adawi S, Al-Farsi YM, Al-Rawahi MK, Al-Mawali NA, et al. Development and validation of an instrument to measure physician awareness of bioethics and medical law in Oman. BMC Med Ethics. 2021 Dec 1;22(1):1–11.
28. Adhikari S, Paudel K, Aro AR, Adhikari TB, Adhikari B, Mishra SR. Knowledge, attitude and practice of healthcare ethics among resident doctors and ward nurses from a resource poor setting, Nepal. BMC Med Ethics. 2016 Nov 8;17(1):1–8.
29. Althobaiti M, Alkhaldi L, Alotaibi W, Alshreef M, Alkhaldi A, Alshreef N, et al. Knowledge, attitude, and practice of medical ethics among health practitioners in Taif government, KSA. J Fam Med Prim Care. 2021;10(4):1759.
30. Ben-Shachar MS, Patil I, Thériault R, Wiernik BM, Lüdecke D. Phi, Fei, Fo, Fum: Effect Sizes for Categorical Data That Use the Chi-Squared Statistic. Math 2023, Vol 11, Page 1982. 2023 Apr 22;11(9):1982.
31. Subramanian T, Mathai AK, Kumar N. Knowledge and practice of clinical ethics among healthcare providers in a government hospital, Chennai. Indian J Med Ethics. 2013;10(2):96–100.
32. Mohamed AM, Ghanem MA, Kassem AA. Knowledge, perceptions and practices towards medical ethics among physician residents of University of Alexandria Hospitals, Egypt. East Mediterr Health J. 2012 Sep 1;18(9):935–45.
33. Padela AI, Malik AY, Curlin F, De Vries R. [Re]considering Respect for Persons in a Globalizing World. Dev World Bioeth. 2015 Aug 1;15(2):98–106.
34. Alkabba AF, Hussein GM, Kasule OH, Jarallah J, Alrukban M, Alrashid A. Teaching and evaluation methods of medical ethics in the Saudi public medical colleges: Cross-sectional questionnaire study. BMC Med Educ. 2013 Sep 10;13(1):1–8.
35. Monsudi KF, Oladele TO, Nasir AA, Ayanniyi AA. Medical ethics in sub-Sahara Africa: closing the gaps. Afr Health Sci. 2015;15(2):673–81.
36. Almasri MS, Bukhari YR, Alzuair BS, Almadi MK, Abdulrahman AK Bin. Ethical considerations in doctors & pharmaceutical industries relationship: a narrative review. Int J Med Dev Ctries. 2020 Jan 26;4(1):244–244.
37. Zolkefli Y. Healthcare Dilemma Towards Gift Giving by Patients. Malays J Med Sci. 2021;28(5):137.
38. Mansour R, Ammar K, Al-Tabba A, Arawi T, Mansour A, Al-Hussaini M. Disclosure of medical errors: Physicians' knowledge, attitudes and practices (KAP) in an oncology center. BMC Med Ethics. 2020 Aug 20;21(1):1–8.
39. Tegegne MD, Melaku MS, Shimie AW, Hunegnaw DD, Legese MG, Ejigu TA, et al. Health professionals' knowledge and attitude towards patient confidentiality and associated factors in a resource-limited setting: a cross-sectional study. BMC Med Ethics. 2022 Dec 1;23(1):1–10.
40. de Carvalho Fortes PA, Andrade Pereira PC. Patient prioritization in medical emergencies: an ethical analysis. Rev da Assoc Médica Bras (English Ed. 2012 May 1;58(3):335–40.
41. McNair S, Okan Y, Hadjichristidis C, de Bruin WB. Age differences in moral judgment: Older adults are more deontological than younger adults. J Behav Decis Mak. 2019 Jan 1;32(1):47–60.
42. Poorchangizi B, Farokhzadian J, Abbaszadeh A, Mirzaee M, Borhani F. The importance of professional values from clinical nurses' perspective in hospitals of a medical university in Iran. BMC Med Ethics. 2017 Mar 1;18(1):1–7.
43. Yarbrough S, Klotz L. Incorporating Cultural Issues in Education for Ethical Practice. http://dx.doi.org/101177/0969733007077883. 2007 Jul 1;14(4):492–502.
44. Michal Rassin RN. Values grading among nursing students – Differences between the ethnic groups. Nurse Educ Today. 2010 Jul 1;30(5):458–63.
45. Ozkan J. New code of conduct underlines ethical integrity for patient benefit. Eur Heart J. 2016 Oct 7;37(38):2855–6.

Figures

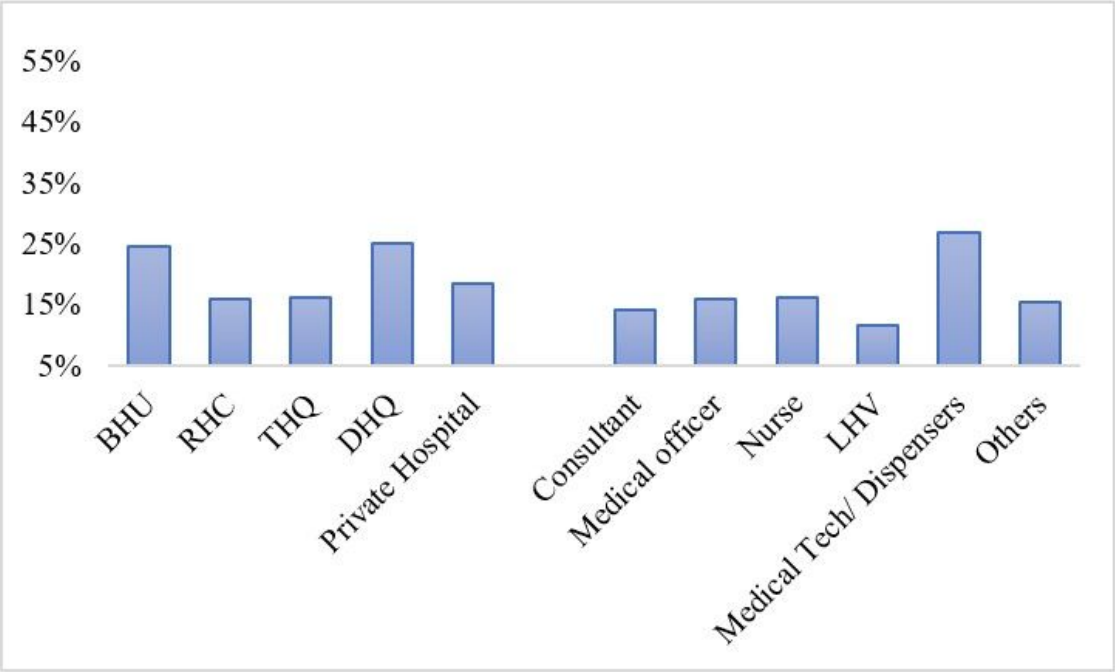

Figure 1

Distribution of the healthcare professionals. Professionals were categorized according to their place of posting and job titles. Y-axis represents percentages and X-axis represent categories of jobs and place of posting in two separate groups.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- supplementarydata.docx