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Knowledge-Practice Gaps in Medical Ethics: A Cross-Sectional Study of Healthcare Professionals at a Pakistani Tertiary Hospital

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ABSTRACT

Background: Quality healthcare relies on medical ethics, which helps professionals to make complicated decisions based on patient autonomy, beneficence, non-maleficence, and justice. This study evaluated the knowledge, attitudes, and practices (KAP) of HCWs in Pakistan Institute of Medical Sciences (PIMS) to determine the gaps and provide a basis on which to design specific educational interventions. **Methods:** A cross-sectional study was done at PIMS, where 264 healthcare professionals (consultants, registrars, house officers, medical students, and postgraduate trainees) were involved. They used a structured questionnaire to collect the information that consisted of demographics, self-reported medical ethics/laws knowledge, sources of training, the frequency of ethical issues, attitude toward the main principles (e.g., informed consent, patient rights), and ethical decision-making practices. SPSS 22 was used to analyze descriptive statistics (frequencies/percentages). **Results:** The participants of the study were males (60.61%), aged 21-30 (48.48%), and with more than five years of working experience (39.4%). Major gaps in knowledge were found: 21.2% of them knew about the Nuremberg Code, 24.2% about the Helsinki Declaration, and 36.4% about the PMDC Code. Although 69.7 % of them considered the knowledge of ethics as very important, 30.3 % had average knowledge of the laws that were relevant, and 18.2% did not know the relevant laws. The first source of knowledge was training (ethics: 42.4%; laws: 45.5%). In terms of practices and attitudes, 57.6 % of them sometimes got informed consent in the local language, and 24.2 % of them never gave copies of consent to patients. Just 27.3 % indicated that an active ethics committee (IEC) existed in their institution, and 63.6 % were uncertain. The attitudes indicated contradictions: 39.4 % of the respondents indicated that ethical conduct was mainly to prevent legal action, whereas 45.5 % of

the respondents indicated that written consent was a requirement in clinical trials. Lastly, 24.24 % of them experienced ethical/legal problems daily, but 39.39 % did not experience any such problems. **Conclusion:** The HCWs at PIMS have identified the value of medical ethics, yet they have a high level of knowledge gaps in the basic codes of ethics, laws, and the roles of IECs. Variability in informed consent and low IEC involvement identify systemic gaps. A special, ongoing education that combines formal ethics training, hands-on workshops, and IEC reinforcement is urgently required to improve ethical competency and patient care quality within the healthcare system of Pakistan.

Keywords: Healthcare Workers, Knowledge, Medical Ethics, Medical Legal and Ethical Issues, Pakistan Institute of Medical Sciences, Patient Care, Quality of Healthcare Services

INTRODUCTION

Medical ethics is a crucial component of healthcare that is centered on providing optimal care to patients while adhering to ethical standards [1]. Healthcare workers are responsible for making complex ethical decisions daily, and their knowledge and understanding of medical ethics play a crucial role in the provision of high-quality care [2]. In recent years, there has been growing concern about the lack of knowledge of medical ethics among healthcare workers and its impact on patient care [3]. Medical ethics refers to a set of moral principles and values that guide healthcare professionals in their decision-making and actions [4, 5]. It involves the consideration of the patient's autonomy, beneficence, non-maleficence, and justice. Medical ethics also considers the social, cultural, and legal aspects of healthcare practices [4, 6]. While medical ethics is a fundamental aspect of healthcare, there is still a knowledge gap among doctors regarding ethical issues [7]. This can be attributed to inadequate training in medical schools, lack of exposure to ethical dilemmas, and time constraints in clinical settings [8]. Studies have shown that some doctors struggle with ethical decision-making, communication with patients and their families, and balancing conflicting interests [9]. Medical ethics is crucial in routine clinical practices, such as informed consent, confidentiality, end-of-life care, and resource allocation. Informed consent involves informing the patient about their diagnosis, treatment options, and potential risks and benefits [10].

Similarly, confidentiality involves protecting the patient's privacy and ensuring that their medical information is not disclosed without their consent [11]. End-of-life care involves respecting the patient's wishes and ensuring that their end-of-life care aligns with their values and beliefs. Resource allocation involves balancing the needs of individual patients and the community at large [12]. Poor knowledge of medical ethics can have negative effects on patient care, such as a lack of trust in healthcare providers, increased risk of medical errors, and decreased patient satisfaction. It can also lead to legal and ethical dilemmas, such as breach of confidentiality and violation of informed consent [13]. Previous research has explored the knowledge and attitudes of healthcare workers regarding medical ethics. Studies have shown that while healthcare workers generally have a positive attitude towards medical ethics, their knowledge and understanding of ethical principles can vary [14]. Some studies have also highlighted the need for ongoing training and education to improve healthcare workers' knowledge of medical ethics. This research article aims to explore the knowledge of healthcare workers regarding medical ethics [15]. Research on medical ethics is extensive, but there is still a gap in understanding how to effectively improve healthcare workers' knowledge. This study investigates healthcare workers' knowledge and identifies contributing factors to poor understanding. The findings provide valuable insights for improving medical ethics education and ultimately improving patient care.

MATERIALS AND METHODS

The research design employed in this study was exploratory and descriptive to examine the knowledge of medical professionals on medical ethics. The study was carried out in the Pakistan Institute of Medical Sciences (PIMS) in Islamabad, where it was the only location of data collection.

DATA COLLECTION PROCEDURE

The structured survey instrument was used to collect data on 264 participants who were healthcare professionals working at PIMS. The demographic data collected in the questionnaire included occupation, age, gender, and number of years of work experience. The survey also evaluated the knowledge of the participants of medical ethics principles and the associated laws, their practices, and attitudes toward ethical issues (as described in the following tables). The sampling strategy was not described, but the participants were recruited in different positions, such as consultants, registrars, house officers, medical students, and postgraduate trainees.

STATISTICAL ANALYSIS

Descriptive statistics were the only data analysed. All the survey responses and demographic variables were calculated in terms of frequency counts and percentages using the Statistical Package for the Social Sciences (SPSS) version 22 software. The quantification of results was done in the form of figures (including bar charts of demographic distributions) and detailed tables with the responses to knowledge, attitude, and practice questions. There were no inferential statistical tests.

RESULTS

Figure 1 shows that the sample was comprised of 264 healthcare professionals from the Pakistan Institute of Medical Sciences. Occupational distribution revealed that registrars were the highest (26.52%, n=70), followed by house officers (21.21%, n=56), medical students (19.32%, n=51), postgraduate trainees (18.56%, n=49), and consultants (14.39%, n=38). Most of the participants were young, 48.48 % (n=128) between 21 and 30 years, and 30.30% (n=80) between 31 and 40 years. Gender distribution showed that there was a male dominance (60.61%, n=160) over the females (39.39%, n=104). In terms of ethical/legal issues, 24.24% (n=64) faced the problem daily, 39.39% (n=104) never experienced it, 18.18 % (n=48) faced it once a week, and 18.88 % (n=48) faced it once a month or less.

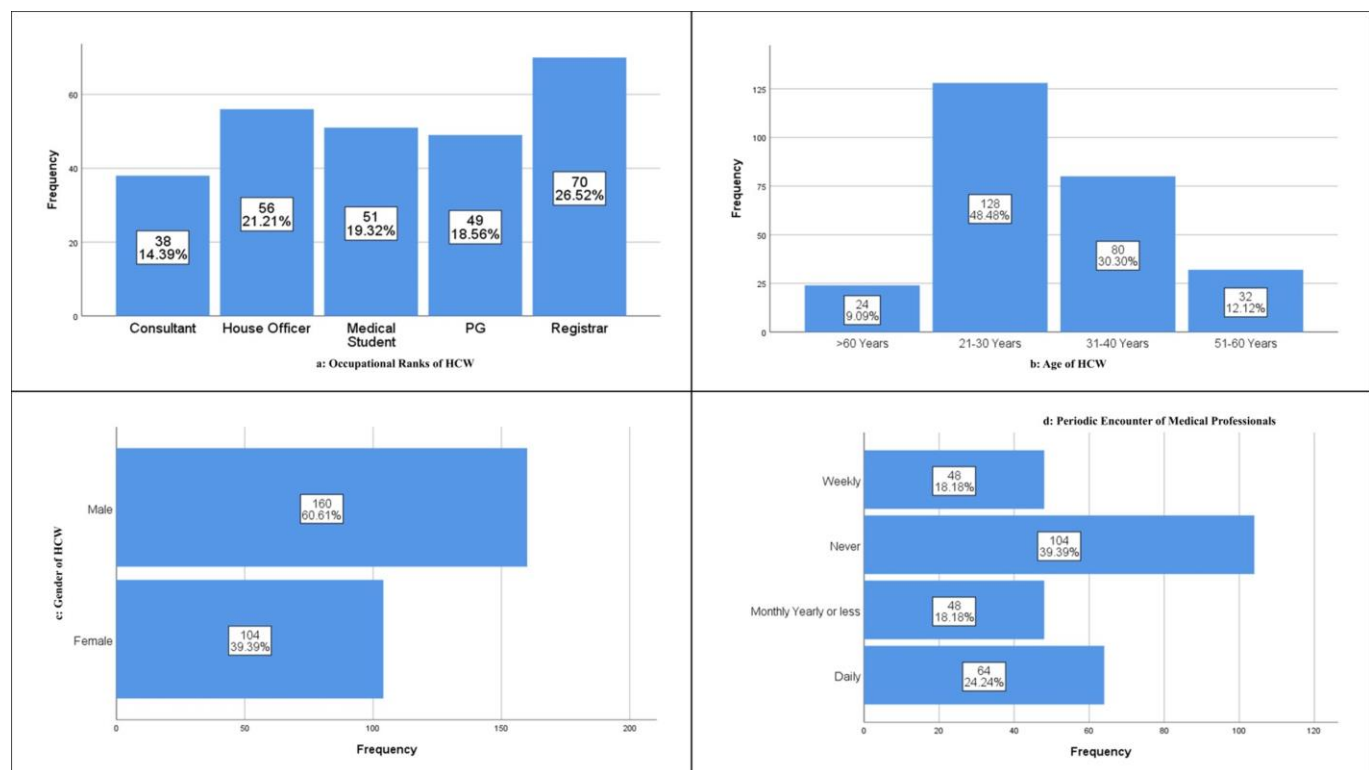


Figure 1: Demographic Analysis, i.e., a: Occupational Ranks of HCWs, b: Age of HCWs, c: Gender of HCWs, d: Periodic Encounter with Legal Issues

The significance of medical ethics was not lost on healthcare professionals, as 69.7% of them found this knowledge to be very important in their practice. Nevertheless, self-reported knowledge of applicable healthcare laws showed a big gap: only 21.2% stated that they knew most laws, 30.3% said that they knew average, and 36.4 % combined ("not at all" + "not sure") indicated low levels of legal awareness. The major source of knowledge on medical ethics (42.4%) and healthcare laws (45.5%) was formal training. The secondary source was on-the-job experience (ethics: 30.3%; laws: 27.3%), whereas self-directed learning ("own reading") was significantly less important, particularly in the case of legal knowledge (3.0%). These findings point to a serious gap between the ethical consciousness of professionals and their practical knowledge of legal structures that regulate practice.

Table 1: Knowledge of Healthcare Professionals about Medical Ethics and Law [N=264]

		Frequency	Percent
How important is knowledge of ethics to you in your work?	A little moderately	40	15.2
	Not at all	16	6.1
	Not sure	24	9.1
	Very important	184	69.7
Do you know the laws pertaining to your work?	A little	32	12.1
	Average	80	30.3
	Most of them	56	21.2
	Not at all	48	18.2
	Not sure	48	18.2
How did you get your knowledge of Medical Ethics?	During Training	112	42.4
	Experience at work	80	30.3
	Lecture/ Seminars	32	12.1
	One's reading	24	9.1
	Others (internet, newspapers)	16	6.1
How did you get your knowledge of law about healthcare?	During Training	120	45.5
	Experience at work	72	27.3
	Lecture/ Seminars	40	15.2
	One's reading	8	3.0
	Others (internet, newspapers)	24	9.1

Healthcare workers proved to be much more familiar with the Hippocratic Oath (45.50%) than with the modern codes of research ethics, with the awareness of the Nuremberg Code (24.20%) being particularly low, and the knowledge of the Helsinki Declaration (33.30%) being rather low, which is an indication of critical gaps in contemporary ethics training.

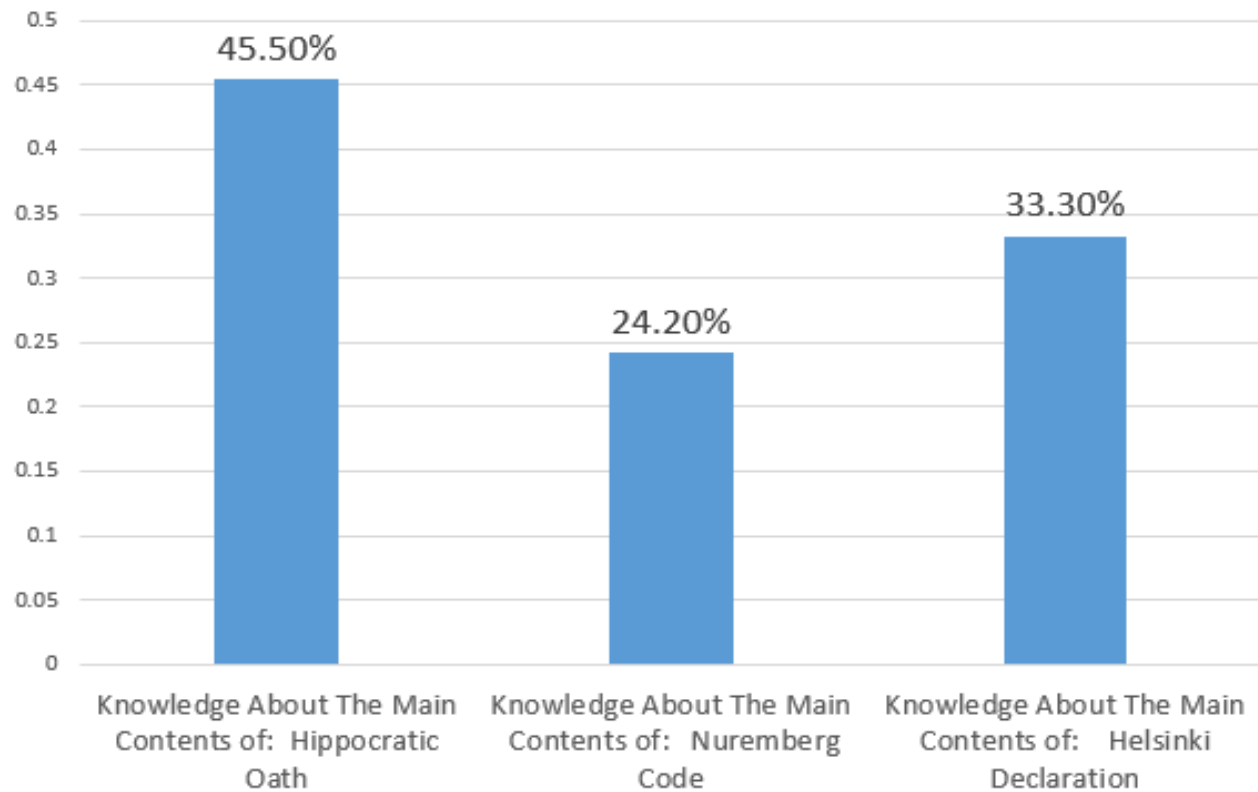


Figure 2: Knowledge of the Health Care Workers Regarding Medical Ethics Code

Table 2 presents data on the practices of healthcare workers regarding their knowledge of patients' rights and ethical conduct. The table includes several statements on different topics related to medical treatment, and the frequency and percentage of healthcare workers who agree, completely disagree, disagree, fully agree, or have a moderate view on these statements. For example, the first statement is "Patients have the right to refuse medical treatment." Out of the healthcare workers surveyed, 64 or 24.2% agree with this statement, while 56 or 21.2% completely disagree, 32 or 12.1% disagree, 56 or 21.2% fully agree, and 56 or 21.2% have a moderate view. Similarly, the table includes statements related to patients' participation in clinical trials, obtaining informed consent, and decision-making regarding medical treatment. For each statement, the table provides information on the frequency and percentage of healthcare workers who agree, completely disagree, disagree, fully agree, or have a moderate view. Overall, the table provides insight into the attitudes and practices of healthcare workers regarding patients' rights, informed consent, and ethical conduct, which can inform discussions and policies related to medical treatment.

Table 2: Practices of Healthcare Workers According to Medical Ethics [N=264]

		Frequency	Percent
Patients have the right to refuse medical treatment.	Agree	64	24.2
	Completely Disagree	56	21.2
	Disagree	32	12.1
	Fully agree	56	21.2
	Moderate	56	21.2
	Agree	80	30.3

The patient should always be told if something is wrong	Completely Disagree	24	9.1
	Disagree	64	24.2
	Fully agree	64	24.2
	Moderate	32	12.1
Doctors and nurses should refuse to treat patients who behave violently	Agree	40	15.2
	Completely Disagree	24	9.1
	Disagree	72	27.3
	Fully agree	32	12.1
Ethical conduct is only important to avoid legal action.	Moderate	96	36.4
	Agree	104	39.4
	Completely Disagree	64	24.2
	Disagree	24	9.1
Patients' participation in clinical trials is at the doctor's discretion.	Fully agree	16	6.1
	Moderate	56	21.2
	Agree	88	33.3
	Completely Disagree	40	15.2
Oral consent is sufficient for patient participation in clinical trials.	Disagree	40	15.2
	Moderate	96	36.4
	Agree	88	33.3
	Completely Disagree	24	9.1
Patient's participation in a clinical trial is the guardian's decision.	Disagree	16	6.1
	Fully agree	8	3.0
	Moderate	128	48.5
	Agree	96	36.4
Patients must sign written informed consent before participation in clinical trials.	Completely Disagree	16	6.1
	Disagree	24	9.1
	Fully agree	16	6.1
	Moderate	112	42.4
Patients' damage in clinical trials should get free treatment.	Agree	120	45.5
	Disagree	24	9.1
	Fully agree	48	18.2
	Moderate	72	27.3
	Agree	120	45.5
	Disagree	24	9.1
	Fully agree	32	12.1
	Moderate	88	33.3
	Agree	120	45.5

Possible risk of disability to be disclosed to patients, if a procedure fails?	Disagree	48	18.2
	Fully agree	16	6.1
	Moderate	80	30.3
Patients only need to consent to operations, but not to tests or medications	Agree	72	27.3
	Completely Disagree	32	12.1
	Disagree	80	30.3
	Fully agree	32	12.1
	Moderate	48	18.2
Guardian may decide on the treatment if the patient is in a conscious state?	Agree	104	39.4
	Disagree	56	21.2
	Fully agree	72	27.3
	Moderate	32	12.1

DISCUSSION

The research study aimed to assess the knowledge of medical ethics among healthcare professionals in the Pakistan Institute of Medical Sciences. The study utilized a descriptive research design to collect data from 264 participants, and descriptive statistics were used to analyse the data. The findings highlighted the need for ongoing education and training in medical ethics and laws to improve healthcare professionals' knowledge and understanding of these important areas. The study's results have important implications for healthcare education and practice in Pakistan, and the methodology provides a useful approach for analysing survey data in healthcare research. A previous research study, "Exploring medical students' knowledge of medical ethics and law in low-and middle-income countries: A systematic review." [16]. This systematic review aimed at assessing the level of knowledge of medical ethics and law among medical students in low- and middle-income countries. The study utilized a systematic review methodology, and 16 articles met the inclusion criteria [16]. The study found that medical students in low- and middle-income countries had limited knowledge of medical ethics and law. The study identified the need for medical schools to improve their curricula to include medical ethics and law education [16]. Few other studies have supported similar outcomes [17, 18].

The above-mentioned study on healthcare professionals in Pakistan is consistent with the findings of the systematic review of medical students' knowledge of medical ethics and law in low- and middle-income countries. Both studies highlight the limited knowledge of medical ethics and law among healthcare professionals and medical students, respectively, in low- and middle-income countries. Additionally, both studies emphasize the importance of incorporating medical ethics and law education into healthcare education and training programs [19]. However, the research study on healthcare professionals in Pakistan provides more specific insights into the factors that contribute to the lack of knowledge of medical ethics and laws among healthcare professionals, such as daily medical, legal, and ethical issues. The study also highlights the healthcare professionals' sources of knowledge, including experience, training, and lectures/seminars. These insights can be used to inform targeted interventions and training programs aimed at improving healthcare professionals' knowledge of medical ethics and laws in Pakistan. Therefore, both studies demonstrate the need for improved medical ethics and law education in low- and middle-income countries. The research study on healthcare professionals in Pakistan provides more specific insights into the factors contributing to the lack of knowledge and the sources of knowledge. This information can be used to develop more effective education and training programs to improve healthcare professionals' knowledge of medical ethics and laws in Pakistan and other low- and middle-income countries.

Another national study that can be compared to the research study on healthcare professionals' knowledge of medical ethics in Pakistan is "A study on knowledge, attitudes and practices regarding medical ethics among resident doctors and medical students in a tertiary care teaching hospital in South India." [20]. This study aimed to assess the knowledge, attitudes, and practices regarding medical ethics among resident doctors and medical students in a tertiary care teaching hospital in South India [20]. The study utilized a cross-sectional survey design, and 202 participants completed the survey. The study found that most of the

participants had a moderate level of knowledge of medical ethics, but there were significant gaps in their knowledge of certain ethical issues. The study also found that the attitudes and practices of the participants towards medical ethics were positive overall [20]. However, the study identified the need for incorporating medical ethics education into the medical curriculum and continuing medical education programs to improve the participants' knowledge of medical ethics [20]. Comparing the research study on healthcare professionals' knowledge of medical ethics in Pakistan and the study on knowledge, attitudes, and practices regarding medical ethics among resident doctors and medical students in a tertiary care teaching hospital in South India, both studies highlight the need for improved medical ethics education in healthcare settings. However, the study in South India focuses more on assessing the attitudes and practices of healthcare professionals towards medical ethics, while the research study in Pakistan is more focused on identifying factors contributing to the lack of knowledge of medical ethics and laws, and the sources of knowledge. Similarly, some other scholars have shown similar outcomes [21]. Hence, both studies provide important insights into the knowledge of medical ethics among healthcare professionals in low- and middle-income countries. These studies emphasize the importance of incorporating medical ethics education into healthcare curricula and continuing medical education programs to improve healthcare professionals' knowledge of medical ethics and laws. The findings of these studies can be used to inform the development of targeted interventions and training programs aimed at improving healthcare professionals' knowledge of medical ethics and laws in low- and middle-income countries.

LIMITATIONS AND RECOMMENDATIONS

The research was done on a small sample of 264 people based on self-reported questionnaires, with no qualitative data and a cross-sectional design and minimal statistical analysis. The results cannot be generalized to other healthcare environments, they are subject to social desirability bias, and they might not give a complete picture of what factors influence healthcare professionals in terms of knowledge and practice of medical ethics. The future studies on medical ethics might consider qualitative research design to determine challenge scales, interventional study to evaluate the training programs, comparative study to compare the knowledge and perceptions in various regions, longitudinal study to monitor the changes over time, and mixed-methods research that would combine the quantitative and qualitative methods to obtain a more in-depth picture.

CONCLUSION

This research study examined the awareness of medical professionals at the Pakistan Institute of Medical Sciences about medical ethics. The research involved 264 respondents, and their data was analysed according to their demographics, including occupation, age, gender, work experience, and exposure to ethical and legal issues regularly. The research established that most of the healthcare workers were in the age bracket of 21 to 30 years old, male, and with over five years of working experience. In addition, most of the respondents indicated that ethical and legal problems were witnessed daily within the hospital. The research also revealed that most of the healthcare workers found ethics knowledge extremely important and learned about medical ethics in their training. Nonetheless, a significant percentage of the respondents were not well versed in laws that are related to their job. Overall, the study indicates that constant training and education of healthcare professionals is required to expand their knowledge of medical ethics and laws.

CONFLICT OF INTEREST

The authors declared no conflict of interest.

AUTHOR CONTRIBUTION

MMK designed the study and was the first author of the manuscript. SK helped design the study and collect data. MK was involved in the collection of data and initial analysis. SPSS was used to facilitate statistical analysis by AK. AR helped in reviewing literature and the interpretation of ethical frameworks. IK helped in the refinement of methodology and critical revision of the manuscript. The final version was reviewed and approved by all the authors.

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