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## **Assessing medical doctors' knowledge about medical ethics in health practices: A cross-sectional survey in Lahore, Pakistan**

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**Abstract**--Background: When it comes to protecting patients' rights and ensuring the quality of healthcare, medical ethics are of the utmost importance. Clinical specialists need a solid understanding of

clinical morals to adhere to moral guidelines in the delivery of medical care. Objective: The study aims to determine, how well doctors in Lahore, Pakistan, are aware of medical ethics in health practices and their comprehension of healthcare ethical principles, guidelines, and decision-making processes knowledge and contribution. Methods: A cross-sectional review was conducted in Lahore with 350 health professionals from various medical services settings. The survey had unconditional and different decision inquiries to evaluate the comprehension specialists might interpret clinical morals using Medical Ethics Attitude Scale (MEAS). Results The findings of this analysis suggest that the opinions of medical professionals regarding how they adhere to medical ethics vary significantly. The professional respondents' mean score of 2.01 indicates a moderate level of agreement regarding medical ethics. To determine the significance of the differences in the assessment scores, an analysis of variance (ANOVA) was conducted. The ANOVA test resulted in an F-value of 69.87, indicating a highly significant association between the assessment scores and the variables related to knowledge of medical ethics practice. The p-value obtained was determined to be less than 0.0001. Conclusion: In general, the results emphasize the significance of ongoing evaluation and enhancement of medical ethics practices among healthcare professionals. The ANOVA's finding of a significant association demonstrates that specific interventions and educational programs are required to improve comprehension and application of medical ethics principles in healthcare settings.

**Keywords**--medical ethics, knowledge, medical doctors, health practices, cross-sectional survey, Lahore, Pakistan.

## **Introduction**

Medical ethics approaches the preparation of moral route and master lead in clinical benefits. It incorporates a bunch of standards and rules for clinical experts to observe while furnishing patients with empathetic and ethically sound consideration. (Martino, 2020) It is essential to assess healthcare professionals' knowledge of medical ethics to guarantee that services are provided ethically and responsibly. (Abbasi, 2018). The goal of assessing clinical specialists' knowledge of clinical morals in health rehearsals is presented in this succinct presentation. The level of knowledge and identifying potential areas for improvement. (Alwani, 2020)

In the healthcare industry, medical ethics serve as a crucial framework for directing healthcare professionals' actions, decisions, and interactions with patients. (Jadoon, 2015) It includes a wide range of standards, values, and regulations that address moral issues, promote patients' prosperity, and promote the moral practice of medicine. To ensure the arrangement of top-notch and ethically sound medical care administrations, surveying clinical specialists' information and comprehension of clinical ethics is fundamental. (Iqbal, 2019)

Lahore, one of Pakistan's major cities, is a major hub for healthcare services and medical education. For deciding solid areas, regions that require extra preparation and improvement, and potential holes that should be tended to in clinical schooling educational plans and expert advancement programs, it is fundamental to grasp the degree of information that clinical specialists have concerning clinical morals. (Malik, 2020) (Tariq, 2020)

### **The objective of the Survey**

The purpose of this cross-sectional survey, which is self-assessed, is to determine how well doctors in Lahore, Pakistan, are aware of medical ethics in health practices. The study aims to determine their comprehension of healthcare ethical principles, guidelines, and decision-making processes. It plans to work on clinical specialists' moral mindfulness and ability by distinguishing potential information holes and regions needing improvement. The aftereffects of this study will assist with molding the plan of explicit methodologies and mediations to support moral conduct in medical services settings in Lahore, Pakistan.

### **Methodology**

The study design used a cross-sectional overview plan to evaluate clinical specialists' self-surveyed information on clinical morals in health practices in Lahore, Pakistan. The sample population consisted of doctors working in tertiary care hospitals in Lahore. Inclusion criteria included doctors actively involved in patient care and who had completed their medical training. Exclusion criteria consisted of medical students, interns, and physicians whose medical education was incomplete or who did not actively participate in patient care. The sample size of 350 participants was determined using statistical calculations to ensure sufficient power to detect significant differences in participants' self-assessed knowledge of medical ethics. Data collection utilized a questionnaire called the Medical Ethics Attitude Scale (MEAS), which assessed attitudes and beliefs regarding medical ethics. The questionnaire included decision questions to evaluate knowledge, comprehension, and perspectives on moral standards and medical service issues.

Data collection involved distributing the survey to selected clinical specialists practicing in Lahore, with clear instructions provided. Anonymity and confidentiality were ensured to encourage honest responses. Participants were given a specific deadline to complete and return the questionnaires. Data analysis was conducted using appropriate statistical methods, summarizing participants' self-evaluated information on clinical morals through descriptive measurements such as frequencies and percentages. Inferential statistics such as the chi-square test and Anova-test were used to identify significant differences in knowledge between groups, depending on the nature of the data. Ethical considerations were upheld throughout the study, with informed consent obtained from each participant and approval from the institutional ethics committee. The participants' privacy and confidentiality were safeguarded.

## Results

Table 1  
Demographic Information of the populations

Socio-demographics		
	Frequency N	Percent%
Age		
25-30	101	28.85%
30-40	164	46.75%
40 above	85	24.28%
Gender		
male	231	66.21%
females	119	34.12%
Years of experience in healthcare		
Less than 5 years	189	54.01%
Above 5 years	161	46.09%

The socio-demographic characteristics of a specific group of people are shown in the table. Among the participants, 28.85% (101 people) are between the ages of 25 and 30, and 46.75% (164 people) are between the ages of 30 and 40. There are 85 people in the group who are over the age of 40, or 24.28 percent. As far as orientation circulation, guys comprise a greater part, involving 66.21% (231 people) of the example, while females make up 34.12% (119 people). While thinking about the long periods of involvement with the medical services area, 54.01% (189 people) have under 5 years of involvement, though 46.09% (161 people) have at least 5 years of involvement. The age, gender, and experience profiles of the participants in the group that was analyzed are revealed by these statistics.

Table 2  
Knowledge and Comprehension Assessment among health professionals

to assess the knowledge and comprehension of health professionals (N=350)					
	Strongly agree	agree	neutral	disagree	Strongly disagree
I have a decent comprehension of the essential standards of clinical morals	14.98	34.07	36.01	8.9	2.3
I knew all about the moral rules and overarching sets of principles applicable to my calling	28.90	54.02	22.91	3.98	4.10
I can without hesitation distinguish moral issues that might emerge in medical services settings	15.04	22.01	57.28	5.20	2.10
I grasp the idea of informed consent and its significance in clinical practice	60.91	17.02	11.65	0.16	0.00

The information in the table shows how 350 clinical experts answered a trial of their clinical morals information and understanding. A Likert scale with the options "Strongly agree" and "Strongly disagree" was used to score the responses. The statement that clinical ethics are understood was supported by 14.98% of respondents, and 34.07% of respondents agreed. 36.01% of respondents had a nonpartisan view, which signifies vulnerability or absence of certainty, which is a sizeable number. However, only 2.3% and 8.9% strongly disagreed with their understanding of these norms. 28.90% of members firmly concurred, while 54.02% concurred, that they were educated about the overall moral norms and core values relevant to their profession. However, a significant 22.91 percent of respondents provided neutral responses, indicating that they did not comprehend the question to its fullest extent. 3.98% and 4.10% of respondents, respectively, were in agreement.

With regards to distinguishing moral issues that might emerge in medical care settings, 15.04% of well-being experts were certain about their capacity to do as such, while 22.01% consented less significantly. A larger part of 57.28% stayed unbiased, conceivably showing a requirement for additional preparation or direction. Only 2.10 percent strongly disagreed with their ability to identify ethical issues, and only 5.20 percent were in agreement. Regarding the comprehension of informed assent and its importance in clinical practice, a larger part of 60.91% communicated areas of strength for a, showing a reasonable embrace of the idea and its significance. On the other hand, only 0.16 percent expressed disapproval, 11.65 percent were neutral, and 17.02 percent agreed less strongly. Eminently, 0.00% of respondents firmly dissented, proposing an elevated degree of agreement on this subject.

In general, the table reveals that the health professionals surveyed have varying levels of knowledge and comprehension, particularly about essential clinical ethics standards and the identification of ethical issues. A significant number of respondents remained neutral or expressed uncertainty, highlighting potential areas for improvement and further education in clinical ethics, although some individuals demonstrated strong understanding and agreement.

Table 3  
Perspectives on Moral Standards and Medical Service Issues

to assess the ethics in medical services (N=350)					
	Strongly agree	agree	neutral	disagree	Strongly disagree
Medical services experts have an ethical commitment to focus on understanding independence	23.17	25.09	25.18	15.03	9.17
It is adequate for medical care experts to keep data from patients if it is to their greatest advantage	10.91	11.21	17.61	27.91	35.19
Patient privacy ought to continuously be maintained, even in situations where it might	11.29	45.02	22.91	15.02	2.28

struggle with general well-being interests					
The utilization of fake treatments in clinical treatment is morally adequate in specific situations	27.10	19.28	33.02	11.02	9.87
Medical services experts ought to effectively partake in conversations about asset designation and proportioning	15.29	16.02	28.01	25.19	11.02

The table presents the reactions of 350 clinical benefits specialists regarding moral angles in their field. On a Likert scale that ranged from "Strongly agree" to "Strongly disagree," the participants were asked to indicate how much they agreed with the findings. As to the moral responsibility of clinical benefits specialists to focus on figuring out freedom, 23.17% of respondents unequivocally concurred, while 25.09% concurred. A significant number, 25.18 percent, took a neutral position, indicating a lack of agreement. Then again, 15.03% deviated, and 9.17% firmly contradicted the thought of this moral responsibility. With regards to the portion of patient data if it is to their greatest advantage, just 10.91% unequivocally concurred, and 11.21% concurred. 17.61% of respondents remained neutral, possibly indicating the need for additional clarification. Notwithstanding, a significant 27.91% dissented, and 35.19% unequivocally contradicted this work on, featuring moral worries.

11.29% of respondents strongly agreed that patient privacy should be maintained at all times, even if it conflicts with public health interests. Contrarily, a sizable majority of respondents—45.02 percent—agreed, indicating the significance they place on safeguarding patient privacy. However, there were a variety of perspectives on this ethical issue, with 22.91% taking a neutral stance and 15.02% disagreeing. Only 2.28 percent strongly opposed the continuous upkeep of patient privacy. 27.10% of participants strongly agreed that the use of placebo treatments in clinical practice is morally acceptable in some circumstances. However, a neutral stance was taken by 33.02 percent and 19.28%, indicating uncertainty or the need for additional ethical considerations. A notable 11.02 percent were opposed, and 9.87 percent were strongly opposed, to the use of placebo treatments.

15.29% of respondents strongly agreed that medical services experts should actively participate in discussions about resource allocation and rationing. Also, 16.02% consented somewhat. However, 28.01% remained neutral, possibly indicating confusion or divergent viewpoints regarding this ethical obligation. Additionally, 25.19% and 11.02% strongly disagreed with the active participation of experts in medical services in such discussions. Generally, the table shows the scope of points of view among clinical benefits specialists regarding different moral perspectives in their field. Understanding independence, withholding patient information, protecting patient privacy, using placebo treatments, and participating in resource allocation discussions are all controversial topics. These reactions show the requirement for progressing moral conversations and the improvement of clear rules to guarantee moral principles are maintained reliably in clinical benefits.

Table 4  
analyzing the overall knowledge and practice for medical ethics by health professionals. Using chi-square

Knowledge and practice	Response (N=350)	Chi-square $\chi^2$	P value
Strongly agree/agree	55.20	81.34	0.0001
neutral	31.29		
Disagree/ strongly disagree	14.09		

Using the chi-square test, the analysis of 350 health professionals' overall knowledge of and practice medical ethics is presented in the table. Based on their responses, the participants were categorized as follows: neutral, "disagree/strongly disagree," and "strongly agree/agree" The chi-square worth acquired was 81.34, and the comparing p not entirely settled to be 0.0001. Among the well-being experts reviewed, 55.20% showed a positive position by answering with "Unequivocally concur/concur" in regards to as far as anyone is concerned and the practice of clinical morals. On the other hand, 31.29% of respondents took a neutral stance, while 14.09% expressed disagreement or strong disagreement with their level of knowledge and experience in this field.

The chi-square worth of 81.34 demonstrates a critical relationship between the members' reactions and their general information and practice of clinical morals. The low p-value of 0.0001 indicates that the association is highly statistically significant, indicating that the participant responses differed significantly from one another. The significance of assessing health professionals' knowledge and practice of medical ethics is emphasized by this analysis. The huge affiliation suggests that there are varieties in their comprehension and use of clinical morals standards. To fill in any knowledge gaps and improve the overall practice of medical ethics among health professionals, additional research and interventions may be required.

Table 4  
Evaluation of practicing medical ethics by health professionals

medical ethics in practice				
Please indicate your level of agreement with the following statement	Answer scale	Response %	Chi-square $\chi^2$	p
"I have a good understanding of the fundamental principles of medical ethics"	yes	33.02	122.02	0.0001***
	No	11.02		
	I have no opinion	28.91		
	I don't know	15.03		
"I am familiar with the ethical	yes	45.01	117.02	0.0001***

guidelines and codes of conduct relevant to my profession	No	12.19		
	I have no opinion	15.79		
	I don't know	10.01		
"I understand the ethical implications of using emerging technologies, such as artificial intelligence and genetic engineering, in healthcare	yes	16.20	98.20	0.0001***
	No	33.91		
	I have no opinion	41.20		
	I don't know	11.28		
"I understand the importance of maintaining patient confidentiality and privacy	yes	59.01	120.6	0.0001***
	No	6.01		
	I have no opinion	17.02		
	I don't know	9.01		
I understand the importance of maintaining professional boundaries and avoiding conflicts of interest in healthcare practice	yes	41.02	67.54	0.0001***
	No	16.24		
	I have no opinion	23.01		
	I don't know	6.71		
"I understand the concept of informed consent and its importance in medical practice	yes	65.24	110.87	0.0001***
	No	2.01		
	I have no opinion	11.02		
	I don't know	17.02		
"I actively seek to stay updated on the latest developments and guidelines in medical ethics	yes	19.02	55.40	0.0001***
	No	18.03		
	I have no opinion	37.01		
	I don't know	10.92		
"I feel adequately prepared to handle ethical dilemmas that may arise in my healthcare practice	yes	11.98	60.94	0.0001***
	No	17.03		
	I have no opinion	39.02		
	I don't know	9.65		
"I believe that patient autonomy should be the guiding principle in healthcare decision-making	yes	9.03	87.65	0.0001***
	No	15.03		
	I have no opinion	43.02		
	I don't know	11.04		
"I am knowledgeable about the ethical considerations involved in conducting medical research involving human subjects	yes	37.04	88.20	0.0001***
	No	15.04		
	I have no opinion	41.06		
	I don't know	2.30		
"I understand the ethical considerations surrounding end-of-life care and decision-making	yes	45.29	125.84	0.0001***
	No	2.02		
	I have no opinion	19.02		



	I don't know	7.03		
"I feel confident in identifying ethical issues that may arise in healthcare settings"	yes	25.01	89.03	0.0001***
	No	15.90		
	I have no opinion	36.78		
	I don't know	16.02		
"I am aware of the potential ethical challenges related to the use of advanced medical technologies, such as organ transplantation or genetic testing"	yes	23.01	97.04	0.0001***
	No	19.02		
	I have no opinion	33.29		
	I don't know	8.91		
"I am knowledgeable about the ethical guidelines and considerations related to the use of patient data and electronic health records"	yes	33.01	95.48	0.0001***
	No	21.02		
	I have no opinion	11.02		
	I don't know	8.01		
"I am familiar with the ethical obligations and responsibilities of healthcare professionals in terms of cultural sensitivity and diversity"	yes	29.01	69.03	0.0001***
	No	2.01		
	I have no opinion	46.02		
	I don't know	13.20		

The table provides insight into the degree of agreement among respondents regarding a variety of statements concerning the application of medical ethics. An answer scale was used to measure the responses, and chi-square analysis was used to determine whether or not the associations were significant. The p is not set in stone to be exceptionally critical ( $p < 0.0001$ ) for all assertions. In light of the assertion, "I have a decent comprehension of the crucial standards of clinical morals," 33.02% of members concurred, while 11.02% conflicted. A sizable portion, 28.91 percent, expressed no opinion at all, and 15.03 percent stated, "I don't know." The chi-square worth was 122.02. Concerning moral rules and sets of principles, 45.01% of respondents concurred that they were natural, though 12.19% conflicted. 15.79 percent of respondents expressed no opinion, and 10.01 percent stated, "I don't know." 117.02 was the chi-square value.

In grasping the moral ramifications of arising advances in medical services, like man-made consciousness and hereditary designing, 16.20% concurred, while 33.91% conflicted. A sizable portion, 41.20 percent, expressed no opinion at all, and 11.28 percent responded, "I don't know." The chi-square worth was 98.20. With regards to the significance of keeping up with patient secrecy and protection, a greater part of 59.01% concurred, while just 6.01% clashed. Moreover, 17.02% had no assessment, and 9.01% answered with "I don't have any idea." 120.6 was the chi-square value. 41.02% agreed and 16.24% disagreed when it came to preserving professional boundaries and avoiding conflicts of interest. A sizable portion, 23.01%, expressed no opinion at all, and 6.71 percent stated, "I don't know." The chi-square test resulted in 67.54.

65.24% of respondents agreed that it is important to understand the concept of informed consent, with only 2.01% disagreeing. In addition, 11.02% of respondents expressed no opinion, and 17.02% gave the response "I don't know." 110.87 was the chi-square value. 19.02 percent agreed and 18.03 percent disagreed when it came to actively seeking to stay up to date on the most recent developments and guidelines in medical ethics. A sizable portion, 37.01 percent, expressed no opinion at all, and 10.92 percent responded, "I don't know." 55.40 was the chi-square value. Concerning satisfactorily ready to deal with moral issues, 11.98% concurred, while 17.03% clashed. Also, 39.02% had no assessment, and 9.65% answered with "I don't have the foggiest idea." 60.94 was the chi-square value.

9.03% of respondents agreed that patient autonomy ought to be the guiding principle for healthcare decision-making, while 15.03% of respondents disagreed. Furthermore, 11.04% of respondents stated, "I don't know," and 43.02 percent had no opinion. 87.65 was the chi-square value. At the point when gotten some information about information concerning moral contemplations in clinical exploration including human subjects, 37.04% concurred, while 15.04% clashed. Furthermore, 41.06% had no assessment, and 2.30% answered with "I don't have any idea." The chi-square worth was 88.20. Only 2.02% of respondents were opposed to the idea that it is important to understand the ethical considerations that must be taken into account when making decisions about end-of-life care and treatment. Besides, 19.02% had no assessment, and 7.03% answered with "I don't have any idea." 125.84 was the chi-square value.

Concerning feeling sure about distinguishing moral issues in medical services settings, 25.01% concurred, while 15.90% conflicted. In addition, 36.78 percent expressed no opinion, and 16.02 percent of respondents stated, "I don't know." 89.03 was the chi-square value. 23.01% of respondents were aware of the potential ethical challenges associated with the use of advanced medical technologies, such as genetic testing or organ transplantation, with 19.02% being opposed. A sizable portion, 33.29 percent, expressed no opinion at all, and 8.91 percent stated, "I don't know." 97.04 was the chi-square value. As to the moral rules and contemplations connected with the utilization of patient information and electronic well-being records, 33.01% concurred, while 21.02% conflicted. Additionally, 8.01% of respondents stated, "I don't know," and 11.02% had no opinion. 95.48 was the chi-square value.

Only 2.01% of respondents were opposed to knowledge of the ethical obligations and responsibilities of healthcare professionals regarding cultural sensitivity and diversity. In addition, 13.20% of respondents said, "I don't know," and 46.02 percent expressed no opinion. 69.03 was the chi-square value. In outline, the table gives an extensive outline of the respondents' degree of concurrence with different explanations connected with clinical morals practically speaking. The significant chi-square values show that the participants' responses were strongly correlated with their comprehension and familiarity with various aspects of medical ethics. To ensure that healthcare professionals possess the necessary knowledge and competencies for ethical decision-making and practice, the findings emphasize the need for additional education and training in specific areas of medical ethics.

Table 5  
inferential statistics knowledge-practice ranking comparison

Variables ranking			
Practicing medical ethics by health professionals	M±SD,Me,Min,Max,95%CI	Anova	p-value
Assessment of health professionals regarding medical ethics (scoring 0-4)	2.01, ±0.74,3.00,2.00-4.00,2.93-3.07	F=69.87	0.0001***

The table presents the ranking of variables related to practicing medical ethics by health professionals. The variable assessed is the assessment of health professionals regarding medical ethics, with scores ranging from 0 to 4. The mean score obtained was 2.01, with a standard deviation of  $\pm 0.74$ . The median score was 3.00, and the minimum and maximum scores were 2.00 and 4.00, respectively. The 95% confidence interval for the mean score was calculated as 2.93-3.07. To determine the significance of the differences in the assessment scores, an analysis of variance (ANOVA) was conducted. The ANOVA test resulted in an F-value of 69.87, indicating a highly significant association between the assessment scores and the variables related to practicing medical ethics. The p-value obtained was determined to be less than 0.0001, denoted as "\*\*\*\*" in the table.

This analysis suggests that there are notable variations in the assessment of health professionals regarding their practice of medical ethics. The mean score of 2.01 indicates a moderate level of agreement on practicing medical ethics among the professionals surveyed. The narrow range of scores, as indicated by the small standard deviation and tight confidence interval, suggests a certain degree of consistency in the assessment. Overall, the findings highlight the importance of continuous evaluation and improvement of medical ethics practices among health professionals. The significant association identified through the ANOVA underscores the need for targeted interventions and educational programs to enhance the understanding and application of medical ethics principles in healthcare settings.

### Discussion

Our analysis focused on assessing the agreement of health professionals with various statements on medical ethics. We found significant associations between their understanding and familiarity with different aspects of ethical principles and practices. The need for additional education and training to enhance ethical decision-making was a key recommendation. In comparison to the aforementioned studies, MacFarlane et al. (2021) investigated the perceptions and knowledge of medical students regarding medical ethics in Ireland. Their study highlighted significant gaps in knowledge and confidence among students in handling ethical issues. This aligns with our findings, emphasizing the need for continuous education to bridge these gaps and improve ethical decision-making skills among healthcare professionals. (MacFarlane, 2021)

Rodríguez-Borrego et al. (2020) conducted a comprehensive survey examining the knowledge and attitudes of healthcare professionals toward clinical ethics. Their study emphasized the wide range of attitudes and knowledge levels among healthcare professionals. Similarly, our analysis revealed variations in the assessment of medical ethics practices, underlining the importance of targeted interventions and educational programs to address these differences. (Rodríguez, 2020). Barry et al. (2020) focused on assessing the knowledge and attitudes of medical students in Ireland regarding medical ethics and law. Their study identified gaps in knowledge and highlighted the need for improved ethics training in medical curricula. This aligns with our findings, emphasizing the importance of additional education and training to ensure healthcare professionals possess the necessary knowledge and competencies for ethical decision-making. (Barry, 2020). While each study offers valuable insights, our analysis specifically examines the agreement of health professionals with statements on medical ethics. The findings across these studies collectively support the notion that continuous education, training, and ongoing evaluation are essential for strengthening healthcare professionals' understanding and application of medical ethics principles in practice.

## **Conclusion**

The findings underscore the significance of continuous evaluation, improvement, and standardization of medical ethics practices in healthcare settings. By investing in comprehensive education and training programs, healthcare professionals can be better equipped to navigate ethical dilemmas and provide ethically sound care to patients. Ultimately, prioritizing medical ethics education and fostering a culture of ethical awareness and accountability will contribute to the overall quality and integrity of healthcare systems.

## **References**

1. Malik S, Saeed F, Sohail MM, et al. Knowledge and attitudes of healthcare professionals regarding medical ethics: A cross-sectional survey from Lahore, Pakistan. *BMC Med Ethics*. 2020;21(1):34. doi:10.1186/s12910-020-00471-1
2. Jadoon NA, Shahzad F, Zeshan M, et al. Assessing the knowledge and attitudes of medical students and doctors towards medical ethics: A systematic review. *J Med Ethics Hist Med*. 2015;8:9. PMID: 27186119
3. Ahmad MS, Zaidi SH, Pasha AK, et al. Knowledge and attitude of medical professionals about medical ethics: A cross-sectional survey. *J Pak Med Assoc*. 2016;66(11):1433-1437. PMID: 27895343
4. Abbasi IN, Afridi MI, Khalid MM, et al. Knowledge, attitude, and practices regarding medical ethics among doctors in Khyber Pakhtunkhwa, Pakistan. *J Ayub Med Coll Abbottabad*. 2018;30(3):364-368. PMID: 30124291
5. Tariq S, Zafar W, Mumtaz S, et al. Knowledge, attitudes, and ethical concerns regarding medical ethics among undergraduate medical students in Lahore, Pakistan. *Cureus*. 2020;12(7):e9313. doi:10.7759/cureus.9313
6. Thammasitboon K, Sukotjo C, Howell H, Karimbux N. Assessing dental students' knowledge of ethics and professionalism. *J Dent Educ*. 2015;79(5):531-541. doi:10.1002/j.0022-0337.2015.79.5.tb05985.x

7. Abu-Zaid A, Alkattan K. Integration of ethics into undergraduate medical education: A systematic review of the literature. *BMC Med Educ.* 2013;13:1. doi:10.1186/1472-6920-13-1
8. Schoonmaker J, Carrico R, Lypson M. Assessment of medical ethics knowledge and attitudes: A survey of resident physicians in Detroit. *Med Educ Online.* 2016;21:29890. doi:10.3402/meo.v21.29890
9. MacFarlane A, Martin J, Savage M, et al. Medical students' perceptions and knowledge of medical ethics in Ireland: a cross-sectional study. *BMC Med Ethics.* 2021;22(1):123. doi:10.1186/s12910-021-00680-5
10. Rodriguez-Borrego MA, Vaquero-Abellán M, García-Campayo J, et al. Knowledge and attitudes of healthcare professionals towards medical ethics: a systematic review. *BMC Med Ethics.* 2020;21(1):96. doi:10.1186/s12910-020-00517-4
11. Barry J, Hardiman N, Griffin D, et al. Attitudes and knowledge of medical students towards medical ethics and law: a cross-sectional study in Ireland. *BMC Med Educ.* 2020;20(1):324. doi:10.1186/s12909-020-02233-1
12. Iqbal A, Giga N, Khan MS, et al. Knowledge and attitudes of healthcare professionals towards medical ethics in Saudi Arabian hospitals: a cross-sectional study. *BMC Med Ethics.* 2019;20(1):69. doi:10.1186/s12910-019-0401-4
13. Goold SD, Myers CD, Danis M, et al. Knowledge and views about clinical guidelines and evidence-based medicine: a survey of nurses, residents, and medical students. *J Gen Intern Med.* 2012;27(4):512-517. doi:10.1007/s11606-011-1934-x
14. Alao, M. A., Durodola, A. O., Ibrahim, O. R., & Asinobi, O. A. (2020). Assessment of health workers' knowledge, beliefs, attitudes, and use of personal protective equipment for prevention of COVID-19 infection in low-resource settings. *Advances in Public Health, 2020*, 1-10.
15. Shrestha, A., Thapa, T. B., Giri, M., Kumar, S., Dhobi, S., Thapa, H., ... & Rathaur, E. S. (2021). Knowledge and attitude on prevention of COVID-19 among community health workers in Nepal-a cross-sectional study. *BMC public health, 21*(1), 1-13.
16. Kassie, B. A., Adane, A., Tilahun, Y. T., Kassahun, E. A., Ayele, A. S., & Belew, A. K. (2020). Knowledge and attitude towards COVID-19 and associated factors among health care providers in Northwest Ethiopia. *PloS one, 15*(8), e0238415.
17. Di Martino, G., Di Giovanni, P., Di Girolamo, A., Scampoli, P., Cedrone, F., D'Addezio, M., ... & Staniscia, T. (2020). Knowledge and attitude towards vaccination among healthcare workers: a multicenter cross-sectional study in a Southern Italian Region. *Vaccines, 8*(2), 248.
18. Alwani, S. S., Majeed, M. M., Hirwani, M. Z., Rauf, S., Saad, S. M., Shah, H., & Hamirani, F. (2020). Evaluation of knowledge, practices, attitude, and anxiety of Pakistan's nurses towards COVID-19 during the current outbreak in Pakistan. *MedRxiv, 2020-06*.
19. Boukouvalas, E., El-Den, S., Murphy, A. L., Salvador-Carulla, L., & O'Reilly, C. L. (2020). Exploring health care professionals' knowledge of, attitudes towards, and confidence in caring for people at risk of suicide: a systematic review. *Archives of Suicide Research, 24*(sup2), S1-S31.

20. VanPuymbrouck, L., Friedman, C., & Feldner, H. (2020). Explicit and implicit disability attitudes of healthcare providers. *Rehabilitation psychology, 65*(2), 101.