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KNOWLEDGE, ATTITUDE AND PRACTICE OF HEALTHCARE ETHICS AMONG DOCTORS WORKING IN SELECTED HOSPITALS OF PAKISTAN: AN ONLINE SURVEY

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ABSTRACT

In healthcare professionals should possess sufficient knowledge of ethics and they should practice ethics with positive attitudes. However, review of literature shows that the healthcare ethics are neglected inside Pakistan. Keeping this in mind, this study has examined knowledge level, attitude type and nature of practice regarding Healthcare Ethics among doctors working in selected hospitals of Pakistan. Using the Cross-sectional design, data was collected from (n=544) doctors through an online self-reported questionnaire. Data were analyzed over descriptive and inferential statistics. The results revealed that doctors possessed sufficient knowledge about healthcare ethics. For such reasons, the doctors had adopted good ethical practices. Knowledge level, attitudinal patterns & types of practices varied according to sociodemographic characteristics. Also, sociodemographic variables were significantly associated with three dimensions of Healthcare Ethics. Findings obtained from this study have provided valuable insights regarding status of healthcare ethics in Pakistan. This study concludes that continuous emphasis should be made on increasing awareness about the healthcare ethics in Pakistan.

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INTRODUCTION

Ethics is derived from Greek word “Ēthikós”, which means “character" (Burgess & Knox, 2019). Ethics are set of moral principles that help in deciding “What makes honest actions right and dishonest ones wrong?” (Deigh, 2010). The professional ethics emerges when any profession is recognized formally and individuals in that profession share moral principles about their role to the common good (Latibjonovna, 2021). Healthcare is a dynamic profession having a proper code of ethics that implements principles of morality through critical examination of concepts,

beliefs, and reasons underlying medico-moral decision making (Markose, Krishnan & Ramesh, 2016). Practicing of Healthcare Ethics can be traced back to circa 275 AD, when the initial draft of Hippocratic Oath was developed (Schulkin & Power, 2019). Healthcare Ethics have developed over time, particularly during the twenty first century significant advances in Medical Sciences were made, and many ethical dilemmas were raised (Tiruneh, Ayele & Beyene, 2020) due to which healthcare professionals required the code of ethics that could allow them to deal various ethical dilemmas during their routine clinical practice. Increasing standing of Healthcare ethics is evident from fact that it is taught as compulsory subject in medical schools around the world. All such efforts are made to ensure that the healthcare professionals acquaint themselves with sufficient knowledge of Healthcare Ethics, which will enable them to practice Healthcare Ethics successfully.

Knowledge about ethics denotes ability of individual to understand ethical or moral situations by critically analyzing and evaluating one's own moral esteems and look up for its effects on others (Türegün, 2018). Whereas attitude towards ethics represents the individual responses, readiness and actions towards ethical decisions (Tiruneh et al., 2020). Both knowledge of and attitudes towards ethics decides level of practicing of ethical principles and codes. In medical profession, both knowledge and attitude matters a lot, since adequate knowledge, and positive attitudes toward ethical principles can prepare healthcare professionals to anticipate, cope with, and resolve ethical challenges that are encountered in the routine clinical practice (Ranasinghe, Fernando, Sumathipala & Gunathunga, 2020). Teaching of healthcare ethics in medical schools as a core subject can really help young medical graduate to learn Healthcare Ethics. Moreover, during job, practice of Healthcare Ethics by seniors can inspire junior to follow ethical practices (Aguilera, Martínez Siekavizza & Barchi, 2019). Healthcare ethics is relatively neglected practice in Pakistan (Bilwani & Anjum, 2022). However, with passage of time the awareness of doctors about healthcare ethics is increasing and government legal system is also stressing doctors to strictly follow the ethical code (Fazal, 2022). Thus, keeping in view, overall scarcity of research on topic of healthcare ethics in Pakistan, this study has examined knowledge level, attitude type and nature of practice about healthcare ethics among doctors working in selected hospitals of Pakistan.

LITERATURE REVIEW

Theoretically healthcare ethics can be understood with help of three major theoretical models about healthcare ethics: teleology, deontology and virtue theory. Teleology states that act always to maximize the good; Deontology states that "act always as if what you will do will become universal law"; and Virtue theory states that "actions should conform to best human behavior as evidenced by scientific study of nature and psychology" (Thomasma, 2003, p.04). Moreover, recently another theory known as Principlism has been introduced, which states that "the four principles that are included in Principlism express "general values, 1) respect for autonomy, 2) non-malfeasance, 3) beneficence, 4) justice are underlying rules in common morality" (Amer, 2019, p.03). Based on theoretical background, the four variables, that are, a) Knowledge about ethics, which denotes ability of individual to understand ethical or moral situations by critically analyzing and evaluating one own moral esteems and look up for its effects on others (Türegün, 2018), b) Attitude towards ethics, which represents individual responses, readiness and actions toward ethical decisions (Tiruneh et al., 2020) and practice which indicates actions or applied acts done to implement healthcare ethics (Varkey, 2022) chosen for its examination in context of Pakistan.

Healthcare Ethics have been taught and practiced in Pakistan since 1947, however, the modern history of Healthcare Ethics can be traced back to early 1980s, when efforts were made by Aga Khan University, Karachi Pakistan in introducing courses related to healthcare ethics (Jafarey & Moazam, 2010). Presently, curriculum of Healthcare Ethics is specified both by the Pakistan Medical Commission and by the Higher Education Commission of Pakistan, whereas ethical practices are governed by code of ethics of practice for medical and dental experts regulations of 2011 (Javaeed, 2020; Kaur, Singh, Bhutani, Delmotra, & Goyal, 2020). Besides, there are certain regulatory bodies that regulate the Ethical practices and procedures among healthcare professionals in Pakistan. National bioethics committee, which was established by Government of Pakistan in 2004 for regulating and promoting Healthcare Ethics in Pakistan through its two sub-committees: Medical Ethics Committee and Research Ethics Committee (Shekhani, Iqbal, & Jafarey, 2021). Pakistan Medical Commission and Pakistan Nursing Council are statutory and regulatory authorities for the medical and nursing professionals in Pakistan (Bibi, Khan, & Noreen, 2020). Despite these promoting and regulatory bodies, practice of Healthcare Ethics is still hampered. There are few hospitals that have ethical review committees/institutional review boards.

Apart from this, there are lack of local research journals on healthcare ethics that can published quality research on Healthcare Ethics in Pakistan. Local researchers mostly publish respondents self-reported findings, and very less experimental or the causal research findings are published. Resultantly the true status of knowledge and practice of healthcare ethics is still unknown. The patients in Pakistan (as customers) are provided legal protection against medical malpractices under the Consumer Protection Acts. The legal system of Pakistan provides different remedies for addressing ethical issues and medical malpractices through various courts (civil/criminal), healthcare commissions and Pakistan Medical and Dental Council (Waraich, 2019). However, despite all these efforts, Healthcare Ethics are not fully provided to patients, mostly because of the lack of awareness about Healthcare Ethics and their ethical rights among Patients (Jalal, Imran, Mashood, & Younis, 2019). Thus, still work need to be done in developing consumerism in healthcare system of Pakistan, which indicates a serious research gap. Research on ethics is not widely done in Pakistan. It is evident from fact that the existing literature documents few research studies, for example, Tahira and Lodhi (2015) and Imran, Haider, and Jawaid (2015) on knowledge, attitude and practice of Healthcare Ethics among the healthcare professionals in Pakistan.

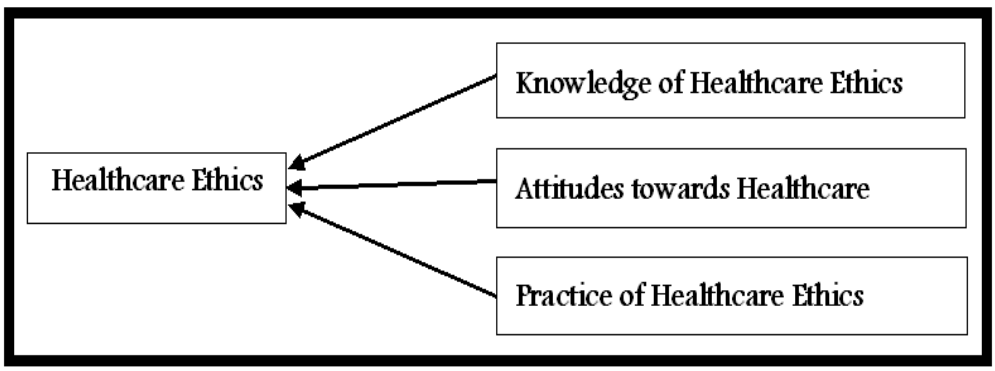
While, recently the authors like Majeed et al. (2020) and Ashfaq, Ishaq and Saleem (2021) had conducted studies on awareness and perception of medical students about Healthcare Ethics in Pakistan. however, there are less studies on the knowledge, attitudes and practice of healthcare ethics among doctors in Pakistan. Findings of previous studies revealed that there was lack of knowledge about Healthcare Ethics among the doctors in Pakistan due to which their practice of ethics was negatively affected. Thus, these studies suggested that future researchers should further explore the knowledge and practice of the healthcare ethics among doctors in Pakistan. Future research on the healthcare ethics is also required because the existing research in the field of Medical Science mainly focus on the technical aspects, therefore, non-technical aspects, that are, Healthcare Ethics and Professionalism also need to be studied (Sana & Fatima, 2020). Such research can help the healthcare organizations to improve the proactive behaviors of their doctors and other medical staff through processes of socialization and engagement (Nguyen,

Bui, & Nguyen, 2020). So, any prospective research on Healthcare Ethics in Pakistan will help in promoting ethical practices among healthcare professionals. The current study has examined knowledge level, attitude type and nature of practice about Healthcare Ethics among specialists and non-specialist doctors who are working in selected private and public sector hospitals of Pakistan.

Research Framework

Based on the theoretical background in literature review, research framework is given in Figure 1. It has three dimensions, like knowledge of healthcare ethics, attitudes towards healthcare ethics and practice of ethics. These dimensions combine together and constitute the healthcare ethics.

Figure 1 Research Framework of Study



RESEARCH METHODOLOGY

Since this is a quantitative study, therefore a postpositivist philosophical paradigm has been followed, which focus on quantitative analysis of variables (Haig, 2018). This study has adopted a cross-sectional survey research design. Cross-sectional design is most widely used because it is time & cost effective (Olsen, Christensen, Murray & Ekbom, 2010). While one of limitations of cross-sectional design is that it cannot be used to make causal inferences (Kelly & Renukdas, 2020).

Participants & Data Collection

The participants of this study were specialists and non-specialist doctors who are working in selected private and public sector healthcare institutions of Pakistan. As, it was not practically possible to collect data from all doctors in Pakistan, specially in prevalent COVID-19 pandemic, therefore, it was decided to collect online data from the selected doctors. For this purpose, three medical associations of Pakistan were chosen. The official websites of these medical associations had lists of registered doctors with email addresses. Doctors were randomly selected by taking 40% of doctors from the total registered doctors, as shown in Table 1. Previous researchers have suggested that 40% respondents can ensure adequate representativeness (Neuman, 2014). It should be kept in mind that population of present study consists of selected doctors working in different private and public sector hospitals of Pakistan. In this connection, findings obtained from them cannot be generalized on the total population of doctors in Pakistan in the different situations.

Table 1
Random Selection of Doctors for Data Collection

Name of Medical Association	Total Doctors (N)	Selected Doctors (n)
Pakistan Association of Dermatologists	719	287
Pakistan Association of Orthopedic Surgeons	1100	440
Pakistan Association of Urological Surgeons	585	234
Total	3685	961

Copy of questionnaire (Supplementary File 01) was emailed to (n=961) selected doctors. Online questionnaire had four sections, that is, a) demographic profile; b) knowledge about healthcare ethics; c) attitudes toward healthcare ethics; and d) practice of healthcare ethics. Questionnaire was designed by adopting four items of Knowledge about Medical Ethics from Graças (Graças et al., 2019). One item on knowledge about medical errors from Abdel-Latif (Abdel-Latif, 2017), seven items of attitudes towards medical ethics, one item on Attitude towards Medical Errors from Kaldjian (Kaldjian et al., 2007), nine items of practicing medical ethics from Ranasinghe et al. (2020) and one item on practical dealing of the Medical Errors from (Medau, Jox & Theil, 2013).

Data Analysis

Data Analysis were performed by using MS Excel (Version-365) and SPSS (Version-20). Data obtained from the completed questionnaires were entered into SPSS and were checked for its completeness. Results related to level of knowledge, type of attitude and practice of Healthcare Ethics were reported by using the frequency tables. Also, One Way ANOVA was used to find the difference between knowledge, attitude, and practice of Healthcare Ethics with regard to the demographic variables. Finally, the separate General Linear Models (Univariate & Fixed Factor) were run to find association between sociodemographic variables & dimensions of Healthcare Ethics.

RESULTS OF RESULTS

Knowledge About Healthcare Ethics

Majority of the doctors stated that they were either Moderately Familiar (cumulatively 52%) or Fully Familiar (cumulatively 38%) with the Hippocrates Codes, Nuremberg Codes, Declaration of Helsinki, and Pakistan Code of Ethics& Regulations, 2011. Moreover, the most of the doctors were moderately familiar (61%) or finally fully familiar (30%) with the said medical errors (See Table 3).

Table 3
Level of Knowledge about Healthcare Ethics

	Percentages of Responses		
Dimensions of Knowledge About Healthcare Ethics	SF	MF	FF
Hippocrates Codes	8.0%	52%	40%
Nuremberg Codes	9.0%	53%	38%
Declaration of Helsinki	8.0%	55%	37%
Pakistan Code of Ethics & Regulations, 2011	10%	54%	36%
Knowledge of Medical Errors	9.0%	61%	30%

Somewhat Familiar = SF, Moderately Familiar = MF, Fully Familiar = FF

Attitude Towards Healthcare Ethics

Majority of doctors either Agreed (cumulatively 70%) or strongly agreed (cumulatively 30%) on the point that they displayed positive attitudes, like passion for medical profession, care and respect for patients, need for in-service training, becoming role model for juniors and accepting medical mistakes. Similarly, majority of doctors (68%) believed that students should be taught adequate level of the in particular context and medical ethics in their medical curriculum (See Table 4).

Table 4

Types of Attitudes Towards Healthcare Ethics

	Percentages of Responses		
Dimensions of Attitude Towards Healthcare Ethics	Neutral	Agree	Strongly Agree
Passion for Medical Profession	00%	69%	31%
Adequate Medical Curriculum	08%	68%	24%
Care for Patients	00%	70%	30%
Respect for Patients	00%	72%	28%
Acting as Role Model	00%	69%	31%
Need for In-service Training	00%	68%	32%
Accepting Medical Mistakes for Self-Rectification	00%	70%	30%

Practicing Healthcare Ethics

Majority of the doctors stated that they had often (cumulatively 39%) or always (cumulatively 53%) adopted good ethical practices, like treating patients considerately, using of Chaperone during examination, providing Health Education, reporting of Ethical Misconduct, taking care of cultural & religious views, dressing appropriately and deal with Medical Errors professionally. Two of good practices among doctors were that they never took gifts from the pharmaceutical companies and never engaged in private medical practice during routine working hours (See Table 5).

Table 5

Dimensions of Medical Ethics Being Practiced

	Percentages of Responses		
Dimensions of Medical Ethics Being Practiced	Sometimes	Often	Always
Treating Patients Considerately	00%	62%	38%
Use of Chaperone during Examination	25%	37%	38%
Proving Health Education & Taking Informed Consent	30%	36%	34%
Dressing Appropriately	00%	45%	55%
Engaging in Continuous Career Development	04%	58%	38%
Taking Care of Cultural & Religious Views	00%	61%	39%
Don't accept Gifts Pharmaceutical Companies	00%	11%	89%
Don't Engage in Private Medical in Normal Working Hours	00%	03%	97%
Deal with Medical Errors Professionally	00%	32%	68%

Differences in Knowledge, Attitude & Practice of Healthcare Ethics

Results of one-way ANOVA revealed that there were significant differences in the Knowledge, Attitude and Practice of Healthcare Ethics with regard to the sociodemographic characteristics of doctors. Details show that significant change in knowledge ($F=14.82$, $p=0.000$), and attitude

(F=1.996 p=0.084) of Healthcare Ethics with regard to age of doctors. There was significant difference in knowledge (f=9.81, p=0.000), attitude (f=2.234, p=0.064), and practice (f=2.121, p=0.064) of healthcare ethics with regard to the job positions held by doctors. Data about the clinical specialization and type of hospital revealed that there was a significant difference in the knowledge (f=14.61, p=0.000), and attitude (f=2.72, p=0.029) of healthcare ethics with regard to clinical specialization held by doctors and there were significant difference in the knowledge (f=1.79, p=0.072), and attitude (f=1.92, p=0.066) of healthcare ethics to the type of hospital (See Table 6).

Association Between Sociodemographic Factors and Healthcare Ethics

Results of the General Linear Models revealed that most of sociodemographic characteristics of doctors were significantly associated with three dimensions of Healthcare Ethics. Details show that the sociodemographic variables of age, job position, clinical specialization, and hospital type were significantly associated with the knowledge, attitude, and practice dimensions of the Healthcare Ethics. For example, the job positions including Teaching Faculty (Σβ= 0.273, p= 0.059), Senior Medical Officer (Σβ= 0.258, p= 0.040), and Junior Medical Officer (Σβ= 0.327, p= 0.034) were significantly associated with Healthcare Ethics (See Table 6). Similarly, Clinical Specialization including Urology (Σβ= 0.218, p= 0.058), Dermatology (Σβ= 0.129, p= 0.070), orthopaedic (Σβ= 0.138, p= 0.025), and general medicine (Σβ= 0.139, p= 0.030) that were thus significantly associated with the Healthcare Ethics. Finally, government hospitals (Σβ= 0.0245, p= 0.096) were significantly associated with the constructs of the Knowledge and Attitude (See Table 7).

DISCUSSION

Findings of this study are in concurrence with the existing literature on Healthcare Ethics and such agreement has allowed us to broadly generalize findings of this study to other populations of doctors. In this regard, findings of (Tiruneh, Ayele, & Beyene, 2020) revealed that 76% out of total 490 doctors were knowledgeable about the different code of ethics in Ethiopia. In another study by Adhikari et al. (2017) on knowledge about ethical codes revealed that majority of the doctors were aware about Hippocratic Oath in Nepal, though, not all doctors were aware about the Nuremberg and Helsinki codes. The findings of (Abdel-Latif, 2017) and (Afolalu, Jordan, & Kyriacos, 2021) on knowledge and reporting of Medical Errors revealed that most of doctors in Asian and African countries like Pakistan, Philippines, Nigeria had sufficient knowledge of the Medical Errors. Moreover, studies like Tiruneh et al. (2020), Mohamed and Ghanem (2012), Imran, Haider, Jawaid and Mazhar (2015) and Jalal et al (2019) on the attitde and pratice of Healthcare Ethics in Asian and African countries like Pakistan, Ethiopia and Egypt reveled that most of doctors in these countries had adopted positive attitudes and practices of Healthcare Ethics.

The existing literature documents some studies that have reported less knowledge of doctors about healthcare ethics and negative attitude/practices toward healthcare ethics. For example, a study by Ranasinghe et al. (2020) on doctors working in three teaching hospitals of Sri Lanka revealed that on average doctors in three Sri Lankan hospitals possessed low level of knowledge about Healthcare Ethics. This level is low as compared to findings of current study (Pakistani doctors have relatively high level of knowledge about Healthcare Ethics). Similarly a study by Adhikari et al. (2017) on the knowledge, attitude and practice of Healthcare Ethics among the doctors and nurses in a major tertiary care teaching hospital of Nepal found 40% of the doctors

and nurses had showed relatively less positive attitude towards healthcare ethics by supporting practices, like, not taking patient's opinion in treatment, not refusing abortion, getting income from medical tests, and receiving gifts from pharmaceutical companies. In this connection, Mashayekhi et al. (2021) explained that the cognitive, educational, and structural factors are associated with the poor knowledge and less positive attitudes of doctors towards Healthcare Ethics.

They further mentioned that the knowledge of doctors could be enhanced through educational programs, that will ultimately assist in boosting positive attitudes and ethical practices among the doctors. Findings obtained from this study have provided valuable insights regarding the status of the Healthcare Ethics in Pakistan. Findings of this study revealed that the Pakistani specialists and non-specialist doctors, who were working in selected private and public sector hospitals of Pakistan possessed necessary knowledge about the Healthcare Ethics; had positive attitudes towards Healthcare Ethics; and had adopted good ethical practices. Although this is totally in contrast to the findings of previous studies like, Tahira and Lodhi (2015) and Jalal et al. (2019), which had reported poor knowledge of Healthcare Ethics and less positive attitudes among doctors in Pakistan. One of the possible reasons might be the fact that the Government of Pakistan has made improvements in curriculum of Medical Colleges, moreover, healthcare system has been uplifted through positive human and techno-structural interventions (Asif, 2021). Therefore, all such efforts have likely improved doctors' awareness about the Healthcare Ethics.

CONCLUSION

Healthcare Ethics is one of the most important topics in the Medical research. Findings of this study revealed that doctors in Pakistan possess sufficient knowledge about Healthcare Ethics, and they also had positive attitudes towards Healthcare Ethics, mostly because of the recent improvements in healthcare system of Pakistan. Despite these good figures about the status of Healthcare Ethics in Pakistan, there should be a continuous emphasis on increasing awareness about Healthcare Ethics in Pakistan over practical education, with a mix of theoretical concepts in the multidisciplinary setting in diverse situations. Moreover, practice of Healthcare Ethics should be made an integral part of the overall healthcare system of Pakistan. In this connection, such efforts are direly required because the doctors in Pakistan increasingly require the vital competence in the healthcare ethics for matching their pace with the global advances in Medical field.

Limitations

This study has certain limitations. First, this study adopted cross sectional research design and data were collected at one point time. Second, due to geographically dispersed population and COVID-19 Pandemic, it was not practically possible to visit each respondent; therefore, online, and self-reported method of data collection was used. Third, this study was conducted among relatively small number of doctors, working in in selected private and public sector hospitals of Pakistan, which might not allow generalization of the findings of this study to whole population of doctors in Pakistan. Fourth, since only selected doctors were contacted for data collection, therefore, there could have been chances of the selection bias. Finally, this study has used self-report questionnaire and it was expected that the doctors will honestly give their responses regarding Healthcare Ethics, however, such subjective data cannot allow us to make any causal inferences.

Table 6
Differences in Knowledge, Attitude & Practice of Medical Ethics by Sociodemographics

		Knowledge			Attitude			Practice		
Sociodemographic Variables	n	Mean	SD	F (p)	Mean	SD	F (p)	Mean	SD	F (p)
Gender										
Males	383	4.5	0.44		3.94	0.25		4.4	0.44	
Females	108	4.4	0.42	0.177 (0.781)	3.95	0.27	0.111 (0.971)	4.3	0.42	0.141 (0.708)
Age										
24 to 30 Years	99	4.0	0.46		3.9	0.25		4.4	0.26	
31 to 36 Years	128	4.4	0.45		4.0	0.25		4.4	0.25	
37 to 42 Years	100	4.3	0.42		3.9	0.26		4.3	0.31	
43 to 48 Years	96	4.4	0.40		4.1	0.26		4.4	0.29	
49 to 54 Years	19	4.5	0.36		4.0	0.18		4.5	0.25	
Above 54 Years	13	4.2	0.43	14.82 (0.000*)	3.9	0.25	1.996 (0.084*)	4.4	0.28	0.220 (0.927)
Job Positions										
Teaching Faculty	90	4.2	0.40		3.9	0.26		4.4	0.33	
Senior Medical Officer	90	4.4	0.40		4.0	0.25		4.4	0.28	
Junior Medical Officer	126	4.0	0.50		3.9	0.25		4.3	0.25	
Specialist Cadre Doctor	139	4.3	0.46		4.0	0.26		4.4	0.26	
Management Cadre Doctor	10	4.6	0.30	9.81 (0.000*)	4.2	0.15	2.234 (0.064*)	4.3	0.26	2.121 (0.06*)
Clinical Specialization										
Urology	91	4.5	0.45		4.0	0.26		4.4	0.328	
Dermatology	108	4.3	0.39		4.0	0.25		4.4	0.32	
Orthopaedic Surgery	56	4.2	0.42		3.9	0.26		4.4	0.31	
General Medicine	73	4.1	0.39		3.9	0.25		4.3	0.26	
Not Yet Specialist	127	4.0	0.60	14.61 (0.000*)	3.9	0.26	2.72 (0.029*)	4.3	0.28	0.289 (0.885)
Hospital Type										
Government Hospital	173	4.2	0.54		3.9	0.25		4.3	0.28	
Private Hospital	282	4.3	0.48	1.79 (0.072*)	4.0	0.26	1.92 (0.066*)	4.4	0.29	0.66 (0.415)

Note: F= F Test Value; p= Significance Level *= Significant; SD= Standard Deviation

Table 7
Association Between Sociodemographic Factors and Healthcare Ethics

	Knowledge			Attitude			Practice		
Sociodemographic Factors	β	95% CI	p	β	95% CI	p	β	95% CI	p
Gender									
Males	0.061	0.174 to 0.053	0.294	0.017	0.151 to 0.064	0.971	0.026	0.189 to 0. 037	0.412
Females (ref)	---	---	---	---	---	---	---	---	---
Age									
24 to 30 Years	0.344	0.567 to 0.120	0.003	0.101	0.259 to 0.157	0.011	0.171	0.223 to 0.182	0.063
31 to 36 Years	0.193	0.312 to 0.125	0.001	0.151	0.207 to 0.103	0.050	0.120	0.169 to 0.130	0.093
37 to 42 Years	0.218	0.441 to 0.115	0.056	0.180	0.238 to 0.179	0.032	0.158	0.211 to 0.194	0.055
43 to 48 Years	0.101	0.324 to 0.123	0.078	0.178	0.236 to 0.181	0.081	0.132	0.185 to 0.121	0.074
49 to 54 Years	0.112	0.221 to 0.105	0.062	0.121	0.132 to 0.426	0.033	0.119	0.302 to 0.586	0.034
Above 54 Years	---	---	---	---	---	---	---	---	---
Job Positions									
TF	0.452	0.943 to 0.141	0.071	0.261	0.605 to 0.084	0.077	0.106	0.440 to 0.227	0.031
SMO	0.329	0.821 to 0.162	0.088	0.284	0.628 to 0.061	0.017	0.162	0.395 to 0.271	0.015
JMO	0.523	0.750 to 0.134	0.036	0.277	0.620 to 0.066	0.038	0.182	0.413 to 0.250	0.029
SCD	0.151	0.839 to 0.138	0.112	0.265	0.608 to 0.077	0.096	0.178	0.409 to 0.254	0.046
MGD (ref)	---	---	---	---	---	---	---	---	---
Clinical Specialization									
Urology	0.354	0.466 to 0.244	0.000	0.199	0.177 to 0.120	0.014	0.101	0.224 to 0.177	0.010
Dermatology	0.136	0.242 to 0.130	0.012	0.145	0.190 to 0.130	0.042	0.107	0.181 to 0.066	0.048
Orthopaedic	0.133	0.163 to 0.097	0.016	0.138	0.153 to 0.131	0.012	0.143	0.132 to 0.047	0.047
General Medicine	0.112	0.131 to 0.107	0.042	0.121	0.137 to 0.105	0.005	0.184	0.166 to 0.136	0.043
Non-Specialist (ref)	---	---	---	---	---	---	---	---	---
Hospital Type									
Government	0.014	0.172 to 0.092	0.095	0.035	0.91 to 0.022	0.098	0.015	0.1610to 0.049	0.184
Private (ref)	---	---	---	---	---	---	---	---	---

Note: β= Standardized Beta Coefficients; 95% CI= 95% Confidence Interval (Upper to Lower Bounds); ref= Reference category.

Implications of Study

Since the current study has examined the knowledge level, attitude type and nature of practice regarding Healthcare Ethics among specialists and non-specialist doctors working in selected private and public sector hospitals of Pakistan. Therefore, findings obtained from this study have significant implications. Findings of this study will provide guidance to the doctors, and healthcare professionals in Pakistan, which will ultimately increase their knowledge about the Healthcare Ethics and help them to develop professionally ethical behavior in the hospitals. The hospital administrator can take guidance from findings of this study while formulating and implementing the policies and procedures related to Healthcare Ethics in Pakistan, particularly policies pertaining to addressing medical errors and medical malpractices. The hospitals can develop their own Ethical Review Boards, and Disciplinary Committees, which can thus deal such ethical issues. Finally, since more than 70% doctors agreed that the extent of teaching on medical ethics in undergraduate curriculum is not adequate, therefore, Pakistan Medical and Dental Council and other regulatory bodies associated with Ethical practices and procedures in Pakistan can work on further developing their curriculum on Healthcare Ethics by consulting the doctors. Therefore, in this way, overall system of Medical Ethics in Pakistan will gradually develop.

Future Research Recommendations

There are certain recommendations for future researchers. The future researchers can conduct longitudinal studies by collecting the data at different points of time, so that variations in the knowledge, attitude and practice of Healthcare Ethics could be found. The longitudinal analysis will ultimately help in understanding the causes behind such variations. Furthermore, future researchers can conduct study on a larger population through personal visits to doctors, which will enable them to generalize their findings easily. Future researchers can conduct experimental studies (based on personal observations) for gathering objective data on actual status of HE in Pakistan

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