

Analysis of Optometry students responses towards ethical dilemmas in eye out door patients

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ABSTRACT

Background and Objectives: Ethical dilemmas have been explored in various areas of healthcare, they have not been as extensively addressed within the field of optometry. Addressing these dilemmas is essential to ensure ethical decision-making and enhance patient care in optometry. To evaluate differences in responses between academic levels regarding ethical dilemmas among optometry students in their practice, and to report the frequency at which they encountered some common potential ethical dilemmas.

METHODOLOGY: The research protocols were approved by Ethical Review Board of College of Ophthalmology and Allied Vision Sciences, Lahore. A performa based cross-sectional study was conducted in College of ophthalmology Allied Vision Science, Mayo Hospital Lahore from March 2024 to August 2024. Cross sectional study design was employed and a total of 95 optometry students participated in this study. Informed consent was taken and a structured questionnaire was developed to evaluate optometry students' responses to Ethical dilemmas in eye patient outdoor and to report the frequency at which they encountered some common potential ethical dilemmas. Sample was collected by using Non probability convenience sampling. Frequencies and percentages were calculated for each question. All the data had been entered and analyzed using statistical package for social science (SPSS Version 25.00). In this study, qualitative variables had been analyzed by applying chi square test P- Value of ≤ 0.05 was considered significant.

RESULTS: Optometry students across academic levels exhibited similar responses to ethical dilemmas, with no significant differences based on academic year. Given the p-values for each ethical dilemma, analysis reveals that issues such as Conflict of opinion with hostile, aggressive patients) and Termination of the relationship with patients having behavioral problems (show significant p-values (p value < 0.05 i.e. 0.03 and 0.02, respectively), indicating significant relationships, while other issues shows statistically insignificant (P-values > 0.05), regardless of the academic year variable applied.

CONCLUSION: Comprehensive ethics education ensures consistent ethical competence among optometry students across academic years, strengthened by clinical practice integration.

KEYWORDS: Ethics, Optometry, moral obligation, confidentiality, Informed consent, beneficence, Ethnicity, minor

INTRODUCTION

Ethics is an integral and fundamental part of medical practice as the physician has a moral obligation (i) to promote the patient's wellbeing, (ii) to prevent or reduce potential harm, and to (iii) honor the values and preferences of the patient.¹ The ethical principles originated in 400 B.C. in ancient Greece, attributed to Hippocrates of Kos.² The four principles of medical ethics are autonomy—respecting patient rights; beneficence—the commitment to doing good; non-malefi-

cence—the obligation to avoid harm; and justice—ensuring fair and equal treatment for all individuals.³ Informed consent ensures patients have a voice in their healthcare by respecting their autonomy and encouraging open discussions with their providers. It's about understanding and making choices together.⁴ Other related principles include being Confidentiality pertains to limiting access to personal data from unauthorized individuals⁵, Fidelity ensures patients receive

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the right care, delivered correctly and timely, tailored to their needs.⁶ and Veracity in healthcare means sharing clear, accurate information to support patients' understanding and informed decisions.⁷ Healthcare professionals face ethical dilemmas when decisions place patient care in conflict with ethical principles, requiring choices that may compromise values and impact outcomes.⁸ The primary ethical dilemmas faced by medical staff in healthcare management, are of four types i.e. -Patient-related dilemmas in healthcare involve balancing confidentiality with team collaboration, ensuring informed consent by respecting patient autonomy, and managing end-of-life care by aligning patient preferences, family input, and ethical principles like beneficence and Nonmaleficence.⁹ Provider-related dilemmas in healthcare revolve around maintaining ethical conduct, navigating conflicts of interest, and ensuring transparency in communication.^{10, 11} , Organizational dilemmas in healthcare involve balancing ethical resource allocation, patient safety, and addressing internal misconduct.¹² and Societal dilemmas in healthcare involve addressing disparities in access and quality while balancing individual rights with collective well-being.¹³

This study aims to evaluate differences in responses between academic levels regarding ethical dilemmas among optometry students in their optometric practice, and to report the frequency at which they encountered some common potential ethical dilemmas in eye patient outdoor.

METHODOLOGY

The research protocols were approved by Ethical Review Board of College of Ophthalmology and Allied Vision Sciences, Lahore. A performa based cross-sectional study was conducted in College of ophthalmology Allied Vision Science, Mayo Hospital Lahore from March 2024 to August 2024. The sample size was calculated from the formula with the confidence level $\alpha = \text{confidence level} = 95\%$, taken from the study with anticipated population proportion, $p = 0.446$ with absolute precision required is 0.10.¹⁴ Sample was collected by using Non probability convenience sampling technique. The inclusion criteria for this study are undergraduate optometry students of fourth year and third year, both male and female. Ophthalmologists, practicing optometrists, faculty, paramedic staff were excluded from this study. Informed consent was taken from each participant. Cross sectional study design was employed and a total of 95 optometry students participated in this study. A structured questionnaire was developed to perform this study. It included questions

including students profile and questions assessing response to ethical dilemmas and to explore ethical issues frequency with respect to their encounter in eye outdoor patient. Only fourth-year students have received ethical education prior submitting their response via an online survey. All the data had been entered and analyzed using statistical package for social science (SPSS Version 25.00). In this study, qualitative variables (Frequencies and Percentages) was analyzed by applying chi square test and Quantitative data (Mean and Standard deviation) was analyzed by Descriptive Analysis. P- Value of ≤ 0.05 was considered significant.

RESULTS

Responses were received from 95 optometry students. Most of the surveys collected were received from third year optometry students (55.8 %), followed by fourth year students (44.2 %). Of the 95 respondents, 30.5 % were male and 69.5 % were female. The mean age of participants was 22.02 years, indicating the average age within the study group.

Table 1 -Demographics

Demographic Variable	Category	Total	Percentage
Total participants		95	100
Gender	Male	29	30.5 %
	Female	66	69.5 %
Year of study	3 rd year	52	55.8 %
	4 th year	43	44.2 %

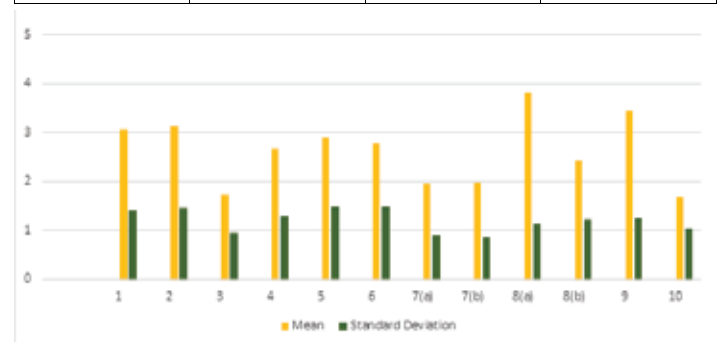


Figure 1. Mean responses to each survey question given by Optometry students.

The analysis reveals that issues such as Conflict of opinion with hostile, aggressive patients) and Termination of the relationship with patients having behavioral problems (show significant P-values (P VALUE < 0.05 i.e. 0.03 and 0.02, respectively), indicating significant relationships, while other issues (e.g., trust, adherence, ethnicity, and sexual advances) shows statistically insignificant (P-values > 0.05), regardless of the academic year variable applied.

Table 3 Ethical Dilemmas Related to the Student-Patient Relationship Chi-Square Analysis

Variable	Sometimes	Frequent	Never	P- Value
a) Conflict of opinion with a patient				
Lack of trust toward the optometrist	70.5%	16.8%	12.6%	0.525
Lack of adherence or refusal of tests	47.4%	28.4%	24.2%	0.235
Hostile, aggressive patient	52.6%	36.8%	10.5%	0.03
Recommendations for contact lenses	60.0%	22.1%	17.9%	0.240
Patient with a problematic personality	63.2%	27.4%	9.5%	0.231
Poor relationship with patient	63.2%	17.9%	18.9%	0.177
b) Termination of the relationship				
Dissatisfied patient, lack of a trust relationship	55.8%	14.7%	29.5%	0.458
Poor attitude with the staff	53.7%	30.5%	15.8%	0.345
Hostile, aggressive patient	68.4%	22.1%	9.5%	0.350
Behavioral problems	67.4%	24.2%	8.4%	0.02
c) Ethnicity, culture, religious/ spiritual beliefs				
Beliefs about glasses	48.4%	40.0%	11.6%	0.803
Religion, Optical services and the Islamic veil	42.1%	26.3%	31.6%	0.877
Ethnicity	50.5%	25.3%	24.2%	0.372
Gender	45.3%	27.4%	27.4%	0.096
Dress code	41.1%	22.1%	36.8%	0.402
Language barrier	53.7%	43.2%	3.2%	0.07
d) Sexual or seductive advances such as				
Inappropriate Comments	34.7%	5.3%	60.0%	0.358
Inappropriate Action	25.3%	14.7%	60.0%	0.691
Contact via Internet or telephone after the exam	21.1%	12.6%	66.3%	0.457
Unnecessary communication without maintaining Distance	35.8%	13.7%	50.5%	0.988

Table 4 Ethical dilemmas Related to Conflicting Relationships Chi-Square Analysis

Variable	Sometimes	Frequent	Never	P-value
e) Conflict of opinion with an optician colleague				
Poor collaboration in relation to the optometrist's recommendations	61.10%	16.80%	22.10%	0.799
Pressure to sell glasses	32.60%	15.80%	51.60%	53.90%
Schedule management	44.2%	31.6%	24.2%	0.799
Comments demeaning the optometry practice	47.4%	23.2%	29.5%	0.41
f) Other dilemma pertaining to conflicting relationships				
Support staff	50.5%	32.6%	16.8%	0.293
Physician, emergency staff	45.3%	32.6%	22.1%	0.25

The table shows the how often students encounter ethical dilemmas related to Conflicting relationships. Given the p-values for each Ethical Dilemma frequency none of them are less than 0.05, suggesting that there is no significant difference in responses based on the academic year.

Table 5 Ethical dilemmas involving Confidentiality of Patient Chi-Square Analysis

Variable	Sometimes	Frequent	Never	P - value
g) Parental consent/disclosure of information about a infants/Toddlers				
Separated parents	38.9%	16.9%	44.2%	0.777
Minor capable of giving consent to care	52.6%	22.1%	25.3%	0.516
Parental consent contrary to the child's welfare	44.2%	29.5%	26.3%	0.881
Parental neglect	46.3%	28.4%	25.3%	0.667
h) Precarious family situation/ abuse such as ;				
Physical or mental abuse by the parent	43.2%	16.8%	40%	0.517
Parental neglect	46.3%	28.4%	25.3%	0.987

i) Compromised safety or danger to the safety of others

Thoughts of self-harm	24.2%	13.7%	62.1%	0.987
Depression, precarious psychological state Aggressive, threatening patient	44.2%	21.1%	34.7%	0.349
j) Other Confidentiality related dilemma such as				
Sharing confidential information with the family	41.1%	26.3%	32.6%	0.602
Unlawful conduct (fraud, crime)	22.1%	15.8%	62.1%	0.974
Image taking policy	36.8%	9.5%	53.7%	0.303

DISCUSSION

Healthcare management entails a broad spectrum of responsibilities, including strategic resource allocation, policy formulation, and ensuring excellence in patient care delivery.^{15, 16} The complex interplay between healthcare professionals, patients, regulatory authorities, and organizational frameworks forms a dynamic environment where ethical challenges are inherent. The historical evolution of healthcare management highlights the shifting nature of these challenges, shaped by societal transformations, technological advancements, and evolving healthcare policies.¹⁷ Applying the Chi-square test given the p-values for each ethical scenario response, none of them are less than 0.05, suggesting that there is no significant difference in responses for ethical scenarios based on the academic year. Figure 1 shows Mean responses for each scenarios indicating that Questions 3 and 10 (mean values near 1.7) show strong agreement. Questions 1, 2, 4, 5, and 6 have mean values around the "Agree" and "Unsure" range (2.66 to 3.14) Questions 8(a) and 9 show a tendency to "Disagree," with more varied opinions showing mixed or uncertain responses from students mean value (3.46-3.82). Questions 7(a) and 7(b) reflect strong agreement with less variation in responses. In the study "Ethics in Optometry" by Andrus and Dorius (2002), the scenario addressing an issue of driving requirements shows significant differences between those who had an ethics course and those who did not. Respondents with previous ethical training had a mean of 4.415 and those without had a mean of 4.274 the p-value is 0.03 indicating a statistically significant difference in responses based on ethics course participation.¹⁸ Table 3,4,5 shows Distribution of responses to the frequency of encounter to ethical dilemmas related to the Student-Patient Relationship, Conflicting Relationships and ethical dilemma involving Confidentiality are given. In Ethical Dilemmas Related to the student Patient Relationship "Conflict of opinion with a Hostile, aggressive patient" (p=0.03) and "behavioral problems leading to relationship termination" show significant P value (p=0.02). Ethical dilemmas related to confidentiality, such as sharing information or

addressing unlawful conduct, were generally marked by high "Never" responses ranging from (32.6% to 62.1%).

(Faucher, Rezk, and Verni -2022) conducted a study The Challenge of Ethical Dilemmas in Optometry part 3 indicate that 44.6% of participants reported experiencing conflicts of opinion with a patient, while 48.8% didn't acknowledged this issue. A smaller group, 6.7%, did not provide a response. 35.4% of participants reported experiencing termination of the patient relationship, with 56.3% didn't acknowledged this issue, while 8.3% did not respond. Ethnicity, culture, and religious or spiritual beliefs were the source of ethical dilemmas for 14% of participants. Female face sexual or seductive advances from patients significantly more often than male (41.7% vs. 12.5%), with this difference being highly statistically significant ($p < 0.001$).¹⁴

(Faucher, Rezk, and Verni -2022) conducted a study The Challenge of Ethical Dilemmas in Optometry part 2 shows that about 20% of participants reported feeling pressured to sell products like glasses and contact lenses, with this being more common among women (24%) compared to men (10%; $p = 0.034$) highlighting gender disparities in commercial pressures within the profession. ¹⁹

Confidentiality in clinical settings faces challenges such as data breaches, cultural sensitivities, and legal dilemmas, particularly in public health or abuse cases. ²⁰(Faucher, Rezk, and Verni -2022) study The Challenge of Ethical Dilemmas in Optometry part 1 shows that 15.4% of participants reported encountering parental consent/disclosure of information about a minor patient, while 81.3% % stated they had not faced such issues, and 3.3% % did not provide a response. Parental consent can sometimes harm a child's well-being, such as when treatment like cycloplegia or glasses is denied, or when appointments are missed. Similar issues arise with patients unable to safely drive, or those showing signs of depression, aggression, or suicidal thoughts.²¹

The study "Ethics in Optometry: An Educational Intervention" by Hart KM and Connor HRM indicates that no significant difference in baseline confidence was found between students with or without prior experience in tertiary education ($p = 0.261$), healthcare ($p = 0.337$), or eyecare ($p = 0.397$) while a significant rise in students' confidence was observed after the ethics workshop, from 53% to 82% ($p = 0.011$)highlighting the workshop's effectiveness in improving ethical reasoning skills.²²

No significant difference was observed for responses towards ethical dilemmas suggesting optometry students' consistent exposure to patients in eye outdoor patient providing them with regular opportunities to face and manage various ethical dilemmas. Similarly no significant difference was observed for frequency of encountering ethical dilemmas in eye outdoor patient except Conflict of opinion with hostile, aggressive patient and "behavioral problems leading to relationship termination" shows significant difference in responses indicating that 3rd year students might lack clinical experience and confidence in handling hostile patients, while 4th year students, having more advanced training and exposure, may have better conflict resolution skills.

The study emphasizes that while ethical education provides a solid theoretical foundation, practical clinical experience is essential for developing students' ethical decision-making skills. By engaging with real-world patient scenarios, students learn to balance ethical considerations and address diverse patient needs, ensuring they are prepared to navigate ethical challenges with professionalism and integrity in their future practice.

CONCLUSION

The results highlight that while ethical education provides a strong foundation, clinical experience is key to developing effective ethical decision-making. Differences between 3rd and 4th-year students in handling challenges like hostile patients and behavioral issues suggest that real-world exposure is crucial for refining these skills. Ultimately, combining theoretical knowledge with practical experience equips students to navigate ethical dilemmas with confidence and professionalism in their future practice.

Limitations and Recommendations

Ethical decision-making is influenced by various factors, such as culture and clinical exposure, making it difficult to isolate the effect of the curriculum alone in critical ethical developing. Additionally, there was no pre- and post-course comparison to assess changes in students' ethical attitudes suggesting Pre- and Post-Assessment would be helpful to assess students' ethical attitudes before and after their coursework to see how much it influences their thinking towards dealing ethical dilemma in their practice and Future surveys would control for other factors in addition to the curriculum such as cultural background, prior clinical experience, personal beliefs, and mentorship significantly influence students' ethical decision-making.

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