

Perceptions of Students and Faculty on Medical Ethics Education at Two Kenyan Universities

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Abstract

Medical or clinical ethics offers essential guidance to healthcare professionals and is ideally incorporated into medical education. Its instruction has become increasingly important due to rapid advancements in medical science and the diverse cultural and socioeconomic contexts in which medicine is practiced. This study aimed to explore how clinical/medical ethics is taught at two medical schools in Kenya through focus group discussions with undergraduate students and key informant interviews with lecturers and academic administrators. Although medical/clinical ethics is included in the curriculum approved by the Kenya Medical and Dental Practitioners Council and forms part of medical training, a gap was observed between theoretical instruction and practical application. Students, lecturers, and administrators from both institutions highlighted the scarcity of role models and mentors, the need for improved communication skills, the absence of formal assessment of ethics, and the lack of structured training for faculty teaching ethics. In the short term, these gaps could be addressed by training faculty in medical/clinical ethics and providing access to relevant reference materials. Long-term strategies should focus on developing context-specific teaching resources and fostering mentorship skills among lecturers to provide ethical role modeling.

Keywords: Undergraduate medical students, Medical (clinical) ethics, Ethical behaviour, Medical training

Introduction

Medical or clinical ethics establishes a framework of professional responsibilities and expectations for healthcare practitioners [1], guiding everyday practice and providing a foundation for resolving ethical dilemmas in medical care. The origins of modern medicine are often traced back to Hippocrates (460–375 BCE), reflected in the Hippocratic Oath [2], which continues to be administered in various forms to

graduating physicians. While the contemporary relevance of this traditional oath is debated, the necessity of a professional code of ethics remains evident [3]. Central to medical practice is the doctor-patient relationship [4] and the fiduciary responsibilities it entails, which are influenced by multiple factors, highlighting the critical role of bioethics and professionalism in clinical practice.

In Kenya, the Kenya Medical Practitioners and Dentists Board (KMDB), established under national law, regulates medical practice [1]. Following its 2019 amendment, it is now known as the Kenya Medical Practitioners and Dentists Council (KMPDC) [1]. Its core functions include overseeing the training of medical and dental practitioners, approving institutions, reviewing curricula, and managing registration and licensure of both practitioners and training institutions. The board's code of ethics [1] outlines these responsibilities,

Access this article online

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Received: 05 February 2024; Accepted: 14 May 2024

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How to cite this article: Fauzi A, Izzah N, Mariam S. Perceptions of Students and Faculty on Medical Ethics Education at Two Kenyan Universities. *Asian J Ethics Health Med.* 2024;4:195-203. <https://doi.org/10.51847/Fut4b8pcZT>

including accreditation of educational institutions and handling professional misconduct. The professional conduct and discipline code, revised in January 2012 [5], addresses relationships between physicians, patients, and colleagues, human rights obligations, and conflicts of interest, though it does not explicitly address emerging medical technologies or interactions with the pharmaceutical industry. Implementing these codes can be challenging, particularly in resource-limited settings where maintaining patient privacy may be difficult.

Medical ethics is included in the KMDB-approved curriculum [6], but universities determine the specific teaching methods, which must then be submitted to Kenya's Commission for University Education for accreditation [7]. However, how medical ethics is practically taught has not been previously studied. This study aimed to evaluate ethics instruction for undergraduates at Kenya's two oldest medical schools, the University of Nairobi (UoN) and Moi University School of Medicine.

The KMDB sets admission criteria for all medical programs [6]. The undergraduate course spans six years, with the first three years classified as pre-clinical and the latter three as clinical. Medical schools are required to specify instructional methods encompassing varied teaching and learning approaches. The minimum credit hours per course unit include 15 hours of lectures, 30 hours of tutorials, and 45 hours of practicals, with the program totaling 220 units over six years, where one unit equals one week of teaching. In the pre-clinical phase, ethics-related content is delivered through Behavioural and Social Sciences courses (Anthropology, Sociology, Psychology) totaling three units, and Communication Skills courses for health workers, adding another three units. During senior clerkship, ethics, professional conduct, and medico-legal topics account for three units [6]. Thus, ethics is explicitly taught in nine of the 220 total units over the six-year program.

Kenya currently has 11 accredited medical schools [8], with the University of Nairobi and Moi University being the earliest established and producing the largest number of practitioners, many of whom now serve as faculty in newer institutions. Modern medical practice faces increasingly complex challenges due to rapid scientific advancements, emphasizing the urgent need for ethics education [9]. Medical errors occur in clinical practice, and distinguishing between error and negligence exemplifies areas often overlooked in medical training [10]. Teaching medical ethics provides a structured

framework to address such challenges, ensuring that practitioners have the knowledge and reasoning tools to resolve dilemmas that cannot be addressed solely through professional codes, science, law, religion, or common sense.

Materials and Methods

Study design and tools

This qualitative study was conducted between May and August 2013, utilizing key informant interviews (KII) and focus group discussion (FGD) guides as the primary data collection tools.

The KII guide was employed to interview academic administrators responsible for overseeing training, as well as lecturers involved in teaching ethics to medical students. The guide included both closed- and open-ended questions, allowing for in-depth exploration of issues that emerged during the interviews. Focus group discussions were conducted with both undergraduate and postgraduate students, beginning with a definition of medical ethics to ensure a common understanding; this paper focuses exclusively on undergraduate medical education.

The KII guide explored the participants' understanding of medical or clinical ethics and any policies or guidelines supporting ethics education. It further examined whether the university had a formalized ethics curriculum, the timing and methods of instruction, the faculty responsible for teaching, and the training provided to these lecturers. Additional questions addressed the number of teaching hours, examination procedures, perceived adequacy of the instruction, and recommendations for enhancing ethics education. Interviewees were also invited to share any additional concerns or suggestions.

Similarly, the FGD guides aimed to assess students' understanding of medical/clinical ethics and their awareness of institutional policies or requirements for ethics instruction. Discussions focused on whether students had received ethics training, during which years, the content covered, instructional methods, and the qualifications of the teaching faculty. Students were asked to comment on the adequacy of the teaching, the competence of instructors, examination methods, and any improvements they would recommend. They were also given the opportunity to provide additional feedback or suggestions to enhance learning.

Ethical considerations

Ethical approval for the study was obtained from the Kenya Medical Research Institute Ethics Review Committee (SSC 3537, May 24, 2013) and the Sindh Institute of Urology and Transplantation Ethics Committee (SIUT-ERC/ERC-A4-2013, February 2, 2013). Permission was also secured from the heads of the participating institutions. Written informed consent was obtained from all participants prior to their involvement in KIIs or FGDs, and copies of the consent forms were provided for their records.

Data collection

Data collection was limited to the first two universities in Kenya to train medical doctors—Moi University and the University of Nairobi [8]—both recognized for training reciprocity across East African member states, allowing graduates to practice in these countries without additional competency examinations upon registration.

The University of Nairobi, located in Kenya's capital, was established in 1967 [11] and hosts over 3,300 students and 239 staff, making it the highest-ranked university in the country [12]. Moi University School of Medicine, located in Eldoret, was founded in 1988, admitting its first cohort in 1990 [13], and has over 300 students and 75 faculty members (personal communication, Dean, May 2013). Both institutions are public universities.

Key informant interviews (KIIs)

All individuals approached for interviews agreed to participate. Appointments were arranged with senior administrative staff (e.g., Deans or Principals) and faculty members responsible for teaching or coordinating medical/clinical ethics, as identified by the administrators. Interviews were conducted in participants' offices for convenience, in English, and were audio-recorded, except in one case where the participant preferred written notes. Each session lasted approximately 20 to 45 minutes and was conducted in the cities where the respective medical schools are located.

Focus Group Discussions (FGDs)

FGDs took place in the same cities as the medical schools. Administrators and faculty facilitated recruitment by identifying students willing to participate. At Moi University, the ethics course coordinator invited final-year students to attend scheduled sessions. At the University of Nairobi, student contacts, referred by the

Dean of Students, reached out to peers. Although students from different years were eligible, most participants were in their final years. The principal investigator (PI) facilitated all FGDs.

Groups ranged from 5 to 12 students and sessions lasted between 90 and 135 minutes. Discussions were conducted in English, with written informed consent obtained for participation and audio recording. Participants were offered light refreshments and reimbursed for travel expenses (500 Kenya Shillings, approximately USD 6). FGDs were concluded once no new themes emerged, indicating saturation.

Audio recordings from both KIIs and FGDs were transcribed by the PI. Consent forms and participant information sheets were stored securely in separate compartments within a locked filing cabinet.

The PI, a female Obstetrician-Gynaecologist with PhD-level public health training, was a student at the Centre for Biomedical Ethics and Culture at the Sindh Institute for Urology and Transplantation, Karachi, Pakistan. She had prior training in research ethics from the University of Cape Town, South Africa, and no previous relationship with participants. She had also received qualitative research training during her Master's in Public Health at the University of Washington and had prior experience conducting epidemiological, clinical, and socio-behavioural research.

Data analysis

Socio-demographic information and institutional affiliations were summarized using descriptive statistics. Transcripts from KIIs and FGDs were repeatedly reviewed by the PI to identify recurring patterns and emerging themes. Themes and sub-themes were organized according to participant type—administrators and faculty, or undergraduate students. Illustrative quotes that best reflected the identified themes were selected for inclusion in the study.

Results and Discussion

University-approved curricula for medical students

Both universities followed curricula for medical training approved by the Kenya Medical Practitioners and Dentists Council (KMPDC) [6]. At one university, clinical or medical ethics was not designated as a standalone subject but was integrated into other courses during the first two years of the six-year program. In

2013, no specific textbooks or reference materials were recommended for teaching ethics.

The other university offered ethics as a distinct subject, with instruction in the first year under "Behavioural Sciences and Introduction to Ethics" and in the final year as "Medical Ethics and Medico-Legal Issues." For the final-year course, a dedicated textbook (July 2012 edition, reprinted June 2013 by the College of Health Sciences printing unit) was provided to all students.

In both universities, ethics was not assessed as a separate core subject but included within examinations of other disciplines. Neither administrators, faculty, nor students identified lecturers with formal training in clinical or medical ethics, although both lecturers and students noted that those teaching the subject demonstrated interest in ethics.

Socio-demographic characteristics

Lecturers

A total of ten lecturers from the two universities participated in the KIIs, with six from one institution and four from the other. Their ages ranged from 51 to 66 years. Administrators (Deans/Principals) had held their positions for 3–6 years, while faculty members involved in teaching had between 10 and 33 years of professional experience. The minimum academic qualification for lecturers was a Master's degree. Clinically trained faculty had Masters' degrees in internal medicine, psychiatry, or obstetrics and gynecology, while others with medical sciences or pharmacy backgrounds held PhD-level training. The majority (8 of 10, 80%) of participants were male, and none had formal training in bioethics or clinical ethics.

Undergraduate students

A total of 35 undergraduate students participated in four FGDs, with 20 from one university and 15 from the other. At one institution, students' average age was 25.45 years (range: 20–26), with most in their final year; only one student was in the second year and two were in the fourth year. At the other institution, students' average age was 27.46 years (range: 25–30), and all participants were in their final year. Female students accounted for 31% of the total sample (11 of 35), with 6 of 15 (40%) at one university and 5 of 20 (25%) at the other.

Themes identified

Theory versus practice in ethics education

A prominent theme that emerged was the disconnect between the theoretical teaching of ethics and its application in clinical practice. Both universities had formal curricula that included elements of medical/clinical ethics. Lecturers and students, however, reported that only certain aspects were addressed, usually during the first or second year within behavioural science courses. Beyond this, it was largely left to individual lecturers to decide whether to incorporate additional ethics content, resulting in inconsistent and unsystematic coverage during the clinical years.

Some faculty believed that ethical principles were subtly integrated into practical teaching:

"I believe that as we teach, there are certain ethical principles that we try to impart in the practical aspect of the theoretical course they did earlier." (KII)

Other faculty acknowledged gaps in instruction:

"You know procedures... giving people the opportunity to make choices, helping them understand why we do things and what options they have. If that's ethics, then I think we are not giving it enough attention...especially related to communication skills...this could be the next flash point for litigation." (KII)

Students highlighted a mismatch between the curriculum and clinical reality:

"The consultants ask... what is the diagnosis? What are you going to do about it... they don't have time to listen or comment on ethics." (FGD)

Both students and faculty expressed concern over inadequate teaching on legal aspects of medicine, which have grown increasingly important as public awareness and litigation risks rise. One participant noted:

"That is an area where we have a shortcoming...we need legal minds and specialists involved...students should be aware of the legal consequences of their actions." (KII)

Insufficient emphasis on ethics teaching

A second theme was the lack of adequate focus on medical/clinical ethics across the curriculum. Administrators, lecturers, and students agreed that ethics teaching is often deprioritized because students are primarily focused on passing examinations, and ethics is not tested as a core subject. Nevertheless, there was unanimous agreement that ethics remains a crucial component of medical training.

"Medical ethics is a terribly important subject and must be taught well... the weeks allocated for it are insufficient...new issues emerge that were not anticipated when the course was designed." (KII)

Faculty also recognized that students prioritize content based on perceived importance for exams:

"When students see it is only one or two units and unlikely to affect their overall passing or failing, they tend to ignore it." (KII)

In one university, ethics was incorporated across multiple departments and subjects, with a few questions appearing within the broader examinations of other medical disciplines. At the second university, students were required to attend at least 80% of ethics tutorials, but there was no dedicated assessment for the subject. Students reported that ethics was given low priority in the curriculum, which influenced their engagement and perceived importance; they focused primarily on subjects where the expectations for passing were clear.

"I focus on medicine, psychiatry, and surgery because those will help me pass... I don't worry about the continuous assessment in forensic pathology that covers ethics... it contributes very little to my final grade." (FGD)

Several students also highlighted the lack of clarity regarding learning objectives and the framework for ethics education:

"The eyes cannot see what the mind cannot see... the system has failed. We don't even know the framework... or whether learning ethics is a legal requirement... it's not being taught effectively. My colleague knows what's required in surgery but doesn't know what's needed in ethics and cannot quantify it." (FGD)

Students emphasized the imbalance in teaching hours, noting that subjects like Anatomy had substantial coverage while ethics had none, shaping their focus accordingly. They also observed a disconnect between early-year teaching and the final year, where ethics was rushed to cover what had been missed previously:

"They skip the second and third years and cram ethics into the fifth year... notes from earlier years are often lost... many of us only synthesize knowledge close to exams... ethics gets overshadowed by other topics like pathology and post-mortems, and classes aren't well attended... whoever scheduled training in years 2 and 5 did not serve us well." (FGD)

"It feels like ethics is delivered as a 'bolus dose'—we are expected to know everything before graduation." (FGD)

Lack of role models

The third theme identified was the scarcity of role models who exemplify standards for students to follow. Both administrators and teaching faculty acknowledged that

demonstrating ethical behavior through personal example posed a challenge. This deficiency in mentorship was partly attributed to faculty members' limited training in bioethics, as well as their restricted availability due to competing responsibilities.

"We need more mentorship than is currently available... and to mentor effectively, one must be present. Many ethical issues arise because faculty are rushing to attend elsewhere." (KII)

Concerns were raised by both students and faculty regarding the limited time teaching staff spent with students and how clinical decisions were made. Lecturers recognized their potential to influence students but found it difficult to consistently lead by example. Similarly, medical students observed that consultants tended to prioritize medical diagnosis and treatment over the "softer skills" of patient care, which are integral to medical ethics. These skills include effective communication with patients, appropriate bedside manners, and professional interactions with peers, seniors, and other hospital staff. High workloads often left insufficient time for detailed explanations to students or for engaging patients in the treatment process.

"In the hospital... it's all about moving the queue, so you rarely get to see consultants demonstrating procedures." (FGD)

"Perhaps it's because of the large patient load; consultants focus on pathology and treatment rather than social or ethical considerations." (FGD)

Although consultants were generally willing to teach when asked, they did not necessarily offer instruction in clinical or medical ethics, often due to work pressures, competing duties, or lack of recognition of its importance. Students also noted that ethical challenges were seldom used as teaching opportunities.

"When there is a special need or an ethical issue, it is referred to someone else—social workers or psychiatrists—so students do not get the chance to learn how to manage it." (FGD)

In the absence of formal systems to model ethical behavior, students identified role models themselves, selecting individuals who demonstrated enthusiasm for teaching ethics and who displayed exemplary behavior toward patients during ward rounds.

"Some consultants make a genuine effort and focus on the whole patient. It's not a general rule, but depends on the individual consultant." (FGD)

"There are ethical doctors... for example, in my ward, I observed lumbar punctures performed under local

anesthesia, and patients were thoroughly counseled before starting chemotherapy. These serve as positive examples.” (FGD)

Medical students also drew on the behavior of postgraduate students with whom they spent most of their clinical time, learning either from what these postgraduates had experienced during their own undergraduate years or from their personal qualities.

Lack of training in communication skills

Both lecturers and undergraduate medical students acknowledged difficulties in teaching and learning communication skills, noting that these skills were either poorly addressed or not formally taught. This issue was further compounded by the absence of senior role models who could demonstrate effective communication:

“If we consider medical ethics to include provider-patient interactions—explaining procedures, offering choices, ensuring patients understand what we do and why—we are clearly neglecting it. Communication skills are essential, yet we perform very poorly. This will likely become a major source of litigation.” (KII)

Students emphasized the need to develop communication skills to function effectively as future doctors, such as delivering bad news or explaining complex medical issues in a way patients can understand before consenting to treatment plans.

“Beyond breaking bad news, there’s also routine communication with patients... a doctor may examine a patient but never inform them of the findings.” (FGD)

“Our patient population presents additional challenges... if a patient struggles with language or understanding, there is rarely time to explain properly. Often, the process is rushed: the consent form is signed, and the patient is sent for surgery without discussion. We never witness how questions or concerns are addressed. During ward rounds, decisions are made, and the next time we see the patient is in the theatre with the signature already in place. Observing these interactions is crucial.” (FGD)

In the absence of guidance or mentorship, students admitted that they tended to defer communication responsibilities to others when they felt unable to manage them adequately themselves.

Many low-resource nations, including Kenya, continue to struggle with significant limitations in their healthcare delivery systems. Our findings revealed broad agreement among university administrators, lecturers and undergraduate medical students in the two oldest Kenyan medical schools that current approaches to teaching

medical or clinical ethics fall far short of what is required. Several interlinked themes emerged: inadequate prioritization of ethics instruction, incompatibilities between formal teaching and real-life clinical practice, limited ethical role modelling by faculty members, and insufficient preparation in communication skills.

Theory versus practice in ethics education

One of the most prominent concerns was the disconnect between the ethics theory students encountered in the classroom and the realities they observed during clinical rotations. Several factors appear to drive this divide. First, the absence of standardized or widely used teaching texts and reference materials undermines consistency in training. Additionally, many of those tasked with teaching lack specialized preparation in medical ethics or bioethics, meaning they may not possess the additional competencies needed to effectively support students in this domain.

Although the Commission for University Education (CUE) is responsible for reviewing and approving higher-education curricula and has recently intensified evaluation across institutions to strengthen standards [14], ethics instruction was still irregular across the years of study. By the time students entered the clinical environment, many had limited recall of what had been taught earlier, or had never been adequately exposed to clinical ethics in the first place. Without deliberate integration of ethical considerations into bedside teaching, these theoretical elements fail to translate into practical learning opportunities.

A similar situation was documented in a South African medical school, where researchers also noted the fragmentation of ethics education [15]. The recommended remedy there was to weave ethics modules across all years of the curriculum and to evaluate students not only on theoretical knowledge but also on how ethical concepts played out in clinical encounters [15].

Medical education across Africa operates under constraints not typically encountered in high-income settings [16]. Factors such as political uncertainty, limited financial resources, and shortages of essential clinical infrastructure create environments where the application of ethical principles is necessarily adapted to local realities. These contextual challenges make it all the more important for lecturers to ensure that ethics teaching is sufficiently robust, grounded in practical examples, and not confined to abstract principles alone. Training must enable students to critically engage with ethical

dilemmas, ask questions, participate in discussions, and understand how ethical frameworks apply to the conditions under which they will eventually practise medicine [9, 15].

Lack of attention to ethics teaching and role modelling

These two themes were closely intertwined, as several underlying factors appeared to contribute to both. Many of the individuals responsible for teaching bioethics had no formal grounding in ethics education, raising questions about whether they were motivated by genuine interest or simply assigned the topic by default. As has been noted elsewhere, educators often reproduce the instructional styles they experienced themselves, carrying forward methods they found useful and discarding those they did not [17]. In the absence of structured training—and given the constraints of heavy workloads and limited instructional time—ethics content is easily sidelined in favour of other subjects perceived as more substantive or heavily examined within the curriculum. Although one might expect lecturers with personal enthusiasm for ethics to invest more effort, our findings did not demonstrate such an effect.

The wider problem of human resource shortages in healthcare—fuelled by a persistent brain drain—has resulted in an ever-increasing patient load being managed by an insufficient number of personnel [4, 18]. This imbalance exacerbates the pressures on academic staff, contributing to limited role modelling and insufficient attention to ethical instruction in resource-constrained medical schools. Many clinicians also hold additional positions in private hospitals to supplement their income [18], leaving less time for lecture preparation or for meaningful engagement with students during clinical rounds. Consequently, simply increasing physician numbers will not, on its own, resolve the deeper systemic issues shaping healthcare delivery in low- and middle-income countries such as Kenya [18].

Students inevitably observe and internalize behaviours displayed by both exemplary and problematic role models. While exposure to unprofessional conduct can cultivate learned insensitivity or normalize negative practices [19], it may also serve as a counterexample—highlighting behaviours that students should consciously avoid in their own interactions with patients.

Lack of training in communication skills

Although ethics courses are formally included in the curriculum, students consistently felt that

communication skills were neither taught in sufficient depth nor introduced at a time that aligned with their clinical responsibilities—specifically before they began ward rotations or during senior clerkship.

Weak preparation in communication has immediate implications for clinical care, especially considering that many patients may struggle to comprehend complicated medical vocabulary or procedures. This raises questions about whether the consent obtained from patients can truly be considered valid [20]. In many situations, patients proceed without a clear understanding of what will be done to them, are not given a chance to seek clarification, and are rarely provided explanations in a language they prefer [15, 20]. Furthermore, respondents emphasized a need for doctors to adopt a more compassionate, polite and respectful approach, noting that discourteous or harsh interactions undermine the patient–doctor relationship [15]. Such concerns take on greater ethical significance in light of the inherent power imbalance between clinicians and patients, which leaves patients particularly vulnerable.

In parallel, evolving social dynamics have also made physicians more aware of their own rights and professional leverage, illustrated by the recent nationwide labour strike in Kenya. This movement—referred to as medical disruption [15]—highlighted the complexity of managing ethical dilemmas related to ensuring patient welfare, avoiding harm caused by service withdrawal, and protecting the rights of healthcare workers. Effective communication by doctors—whether with patients, peers or institutional leadership—remains essential for daily clinical operations and for addressing intricate issues in workforce management and welfare.

Although no single solution exists for such ethical conflicts, creating spaces for dialogue can enhance students' capacity to analyse and respond to these dilemmas. Ethics education equips future clinicians with the skills needed to synthesize information, evaluate competing values and apply ethical reasoning as dilemmas emerge throughout their medical practice [15].

Limitations

During the data collection phase, no formal written curriculum detailing the sequencing and content of ethics training was provided. Consequently, the investigator relied solely on insights gathered from interviews, which may inherently reflect the subjective perspectives of the interviewees.

The recruitment of participants and interviewees was also guided by contacts identified through institutional administrators. If their selection carried any implicit bias, this may have shaped the composition of the final participant pool and, in turn, the study's outcomes. Moreover, student participants were identified largely through a snowball approach, meaning the sample may have disproportionately represented individuals with similar outlooks and experiences.

Another possible source of bias stems from the investigator's prior training at one of the involved institutions and a personal perception that clinical ethics education had been insufficient during that time. Although care was taken to formulate neutral and balanced questions for both interviews and focus group discussions, it is conceivable that this earlier experience influenced the research process. Nevertheless, the lecturers—whose demographic and professional backgrounds mirrored those of the investigator—articulated concerns that aligned with the students' viewpoints, thereby offering some corroboration for the findings.

Conclusion

Medical ethics forms a critical pillar of medical education, and the disconnect revealed between curriculum intentions, theoretical instruction and actual ethical practice necessitates attention. Several practical measures can address this divide.

Ensuring that educators assigned to teach ethics receive dedicated and structured training is essential. Embedding ethics-related content across all years of the medical program, while also making the subject examinable, would elevate its importance and ensure sustained student engagement. Furthermore, formal recognition of medical ethics as a legitimate subspecialty within medicine would reinforce its significance.

The development and adoption of appropriate textbooks, along with the creation of teaching resources tailored to the local context, should be encouraged. Strengthening pedagogical approaches and incorporating ethics teaching within clinical environments would further support students in building the moral reasoning skills required to navigate real-world ethical challenges.

Finally, fostering strong mentorship and positive role modelling, supported by adequate resources, would contribute to the cultivation of future medical professionals who demonstrate not only competence but

compassion. These resources may include training opportunities for ethics instructors, institutional acknowledgment of bioethics as a medical subspecialty, and the availability of relevant reading and reference materials to support teaching.

Acknowledgments: This study was done as part of Elizabeth Bukusi's Masters in Bioethics requirements at the Sindh Institute of Urology & Transplantation (SIUT) in Pakistan. Professor Bukusi's training was funded by a European and Developing Countries Clinical Trials Partnership grant (CB.2010.41302.016) whose objective was to restructure and strengthen the process of ethics review at the Kenya Medical Research Institute, which is one of the leading research institutes in sub-Saharan Africa.

The author wishes to thank Professors Farhat Moazam and Aamir Jafarey who supervised the MBE thesis, Timothy Kipkosgei who supported the data collection, Sarah Okumu, Rachel Mwakisha and Petronilla Njenga for their support in administration and logistics.

Conflict of Interest: None

Financial Support: None

Ethics Statement: None

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