BIOETHICS TEACHING AND ITS' EFFECTIVENESS IN UNDERGRADUATE MEDICAL PROGRAMMES: A NARRATIVE REVIEW

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Abstract

Medicine is an art as much as it is a science. Patients wish to consult professional and compassionate doctors, though they rarely meet such. To cultivate professionalism in medical students, bioethics teaching have been incorporated into medical programmes in varying degrees across the world. This reports findings from a narrative synthesis of previously published literature that evaluates the evidence regarding implementation of bioethics in undergraduate medical curricula, with special attention to the Asia, Pacific region. For this purpose, Google Scholar and MEDLINE/PubMed databases were searched for articles on bioethics published between January 2000 to April 2024. Reviews or studies that were published in languages other than English were excluded from the search. The focus was placed on the development of moral competence as the intention of this review was to inform bioethics teaching. The results reveal a high degree of diversity of the curricular structure of bioethics courses and the lack of formalization of bioethics in the curricula specially in the Asia-Pacific region. Bioethics teaching resulted on lowering student indecision when faced with moral dilemmas. The call for use of local cases to enhance bioethics education is prominent, enabling more opportunities for reflection and discussion, to stimulate critical judgment of future clinicians.

Keywords: Bioethics, medical students, moral competence, review

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Introduction

While scientific and technical knowledge advances have contributed to exponential progress in medicine, clinical practice remains as much an art as science (Tooke, 2016). For thousands of years, the doctor's armamentarium consisted of the herb, the knife, and the word (Grant, 2002). As time passed, however, the 'word' has received less attention than the other two, with an evident decline in a physicians' ability to fulfill patient's expectations regarding communication, willingness, and permanent care (Coulehan & Williams, 2003). Medical ethics or 'bioethics' a term coined by Potter in 1970 (Gracia, 2001) and medical humanities have been formally introduced into the curriculum around the 1970s in the West (Shankar, 2016) to counter doctors' insufficient emotional involvement by fostering reflexive professionalism (Sheehan et al., 2015). Teaching bioethics is fundamental to good medical practice, as it combines the application of scientific knowledge with a respect for the values and preferences held by the patient, attempting to render them active participants in the care process (Tavares et al., 2022). However, bioethics and medical humanities education did not gain traction until the 1990s in the Asia-Pacific region (Shankar, 2022). Since then, bioethics has become the dominant discipline of the two, globally (Shankar, 2022). This may be because exploring ethical issues in medical practice may not challenge the traditional knowledge and power structures inherent in medicine as opposed to medical humanities. Thus, teaching bioethics was perceived as more comfortable and considered less radical than the teaching of humanities to medical fraternity. Until recently, the medical humanities have been embedded or hidden in a bioethics paradigm, the best example of which is the journal Medical Humanities being launched as a special issue of the Journal of Medical Ethics in 2000 (Greaves & Evans, 2000; Shankar, 2022).

It is being argued that bioethics may only be one among many disciplines that constitutes medical humanities. Medical humanities involves interactions between the patient and the healthcare practitioner, where ethical issues may be evident in only some of these interactions. Ethical values do not exhaustively cover the value system in medicine. Hence, a wider understanding of values is vital to explore ethical issues that arise in healthcare adequately. The burgeoning non-communicable diseases in the last few decades mean that the medical practitioners need to respond more to the emotional needs of patients. As artificial intelligence (AI) embodies healthcare and medical education, medical educationists and clinicians alike need to face ethical challenges that are inevitably associated with AI. Hence, medical humanities become an integral part of clinical medicine.

Bioethics programmes mushroomed in the United States primarily in the medical schools in the 1970s (ten Have & Neves, 2021). In a relatively short period of time almost all medical schools in America introduced bioethics education to their undergraduate degree programms. Since then, Europe and other countries have begun to incorporate bioethics education, to varying degrees. Inclusion of bioethics in the curricula has become a requirement for accreditation of the undergraduate medical programms in some countries such as the United States (Singer, 2003; Ypinazar & Margolis, 2004). Consequently, bioethics-teaching came to be offered not only in undergraduate programs but also in graduate, and postgraduate education. Asian medical schools have incorporated bioethics into their curricula in the late 20th and early 21st century, with some countries in the Asia-Pacific region such as Malaysia, Pakistan, and India lagging far behind (Ganguly et al., 2023; Ngan & Sim, 2021;Singh et al., 2017). Moreover, bioethics education is highly heterogenic, with different types of programs offered within and across countries, with varying approaches, methods and volume of teaching (ten Have & Neves, 2021), with arguments of contextualizing bioethics teaching, questioning the suitability of western approaches to the eastern cultures (Bergstresser et al., 2020). Although literature is ripe with how some countries teach bioethics, reviews of how Asia pacific region attempts to introduce bioethics concepts to its' students is scarce.

The aim of this narrative review is therefore to partially fill this gap in the literature by ascertaining how bioethics teaching is established globally, with special attention to the Asian context, and the extent to which it is effective in meeting the objectives of establishing bioethics programmes.

Methodology

This paper reports findings from a narrative synthesis of previously published literature on the topic bioethics teaching in undergraduate medical education. A narrative review is appropriate when several quantitative studies use different methodologies or have different theoretical conceptualizations (Baumeister, 2012). By evaluating and synthesizing multiple individual studies, a broader consistency can be discovered (Siddaway et al., 2019). In this way, a narrative review allows for a global vision that serves as a starting point for knowing which aspects have been studied and which need to be investigated. This narrative review followed the methodological guidelines of the SANRA tool (Baethge et al.,2019).

A broad electronic search of the Google Scholar and MEDLINE/ PubMed databases was performed to extract relevant studies published between January 2000, and April 2024. No time restrictions were imposed as a search criterion. The search strategy used both medical MeSH terms and free-text words. The search was performed using a combination of broad search terms including bioethics (i.e., bioethics OR medical ethics OR ethics) AND moral competence (i.e., (moral competence OR moral judgement OR moral reasoning) AND undergraduate medical education (i.e., (undergraduate medical curricul* OR undergraduate medical education OR medical school* OR medical student* OR medical undergrad*). Additionally, a hand search through reference lists of retrieved articles was conducted. Duplicates were eliminated by going through the abstracts. Reviews or studies that were published in languages other than English and research that involved postgraduate trainees or doctors and allied health undergraduate trainees were excluded from the search. The focus was placed on the development of moral competence as the intention of this review was to inform bioethics teaching. Based on the literature review the following important content was extracted.

Results

Moral decline

The current perception of the layman into health professionals and specially physicians, is that most are exclusively concerned with the technical side of their profession, leaving behind its relational component. Patients and their families across the globe seem frustrated with doctors' capacity to fulfill their expectations regarding communication, willingness, and permanent care (Coulehan & Williams, 2003). This scenario, also known as dehumanization of medicine, has been attributed to various causes such as organization of the healthcare system, and the relative decline of humanistic values in general (Serodio et al., 2016). Moreover, there is a widespread feeling that medical training, at undergraduate and graduate levels, somehow contributes to escalate dehumanization (Serodio et al., 2016). The classical description is that students enter medical school with a generous and empathetic attitude but, with years passing by, they become self-centered individuals, who are less-empathetic and almost inhuman (Serodio et al., 2016) with evidence of moral reasoning stagnation during medical training (Fleisher et al., 2003; Patenaude et al., 2003).

Explanations for moral regression could be found in both, the formal and the hidden curricula (Tavares et al., 2022). At the beginning of the 20th century, basic sciences and hospital practical training became the core of formal medical curriculum in many parts of the world (Hiatt & Stockton, 2003). Hence, humanistic education founded on history, philosophy, and literature received lack of much attention.

Thus, medical students learn how to behave like a doctor mainly via the hidden curriculum (Serodio et al., 2016) mostly by leaning into role models identified among professors, and clinicians. However, in the background of physicians' lack of humanistic skills demonstrated in literature, identification of negative role models may lead students astray in their relationship with patients.

When dehumanization is explored with the constructive structural theory in moral psychology, moral development can be associated with cognitive development in an invariable and irreversible sequence of stages (Serodio et al., 2016). Accordingly, individual moral reasoning development begins with a completely egocentric approach. It then passes through the recognition of different social perspectives (from close people such as family to the society as a whole) with time and reaches highest developmental stages with the employment of universal moral principles to solve moral dilemmas. Once individuals reach this higher stage, they will not employ lower stage moral reasoning when faced with moral problems. It is believed that the more the years of formal education a person undergoes, the higher the stages of moral reasoning they will employ when encountering moral problems. Thus, medical students are supposed to achieve higher moral development stages by the time they graduate from medical school. Interestingly, in addition to the cognitive part, it is widely accepted that there is an affective aspect in moral behavior. However, the cognitive structural authors such as Kohlberg and Piaget viewed affection as an 'invariable variable', and thus focused on the cognitive processes that are involved in moral decisions and actions (Serodio et al., 2016), leading to the cognitive part becoming more prominent in literature.

Bioethics

Biomedical ethics or in short, 'Bioethics' is the study of moral values and judgments applied to medicine (ten Have & Gordijn, 2013). Simply put, it enables reflection on healthcare related issues as right and wrong, with indication of what to do and what not to (Shakya et al., 2015). The West, working within their own value system, may have been able to develop a 'near consensus' on how to deal with at least some of the pressing bio-ethical questions in the western context (Sharma et al., 2016) .However, the same cannot be said for the East, with some countries are yet to deliberate upon bioethical issues in accordance with their own, unique socio-cultural and religious practices. Important to note is that studies have shown that most of the knowledge of biomedical ethics is acquired during the period of undergraduate training (Hernández González et al., 2013). Bioethics education has shown a positive impact on moral development and on making better doctors (Hariharan et al., 2006). A great initiative in bioethics education could be the UNESCO Bioethics Core Curriculum which is a highly comprehensive curriculum grounded in the UNESCO Universal Declaration of Bioethics and Human Rights (UNESCO, 2005). This bioethics curriculum is grounded in the universal humanitarian principles of human dignity, human rights, nondiscrimination, and respect for the environment and the commonwealth of life, which caters to the global community. However, the appropriateness of locating bioethics within geographic, historical, and philosophical spaces is frequently questioned throughout broader theoretical debates, extending to discussions of whether a 'global bioethics' is possible or even desirable (Fox & Swazey, 1984; Holm & Williams-Jones, 2006; Nie, 2013; Tai & Lin, 2001). Moreover, since many core bioethical principles have roots in cultural norms, rather than universal norms, clinical ethical practice is not uniform across global settings, and teaching bioethics to a diverse group of medical students poses unique challenges (Feldman et al., 1999). Additionally, despite the increased emphasis on bioethics teaching in universities in both developing and developed countries, the main goals or best methods of teaching bioethics and appropriate assessment methods of ethics curricula are still debated upon (Carrese et al., 2015).

Bioethics teaching in undergraduate medical programmes

Although bioethics teaching is incorporated into medical curricula in most countries (de la Garza et al., 2017; Ganguly et al., 2023) it is not highly impressive in terms of teaching volume, time, and commitment (Roberts et al., 2004, 2007). Although bioethics education is required in USA, it comprises only 1% of the undergraduate medical curricula (ten Have & Patrão Neves, 2021). Bioethics is a core component of all medical curricula in Australia and New Zealand (Torda & Mangos, 2020). Similar to USA, Canada and the UK, incorporation of bioethics into the undergraduate medical curricula in Australia and New Zealand is necessary for course accreditation by the AMC (GMC, 2018). Similar observations can be made in Pakistan, a South Asian low-middle income country where the accreditation body for undergraduate medical education, the Pakistan Medical and Dental Council (PMDC) recommended introduction of bioethics education as a part of undergraduate medical curricula in 2002 (Ashfaq et al., 2021; Riaz et al., 2023). While the guidelines explicitly stated that bioethics must be taught and assessed in undergraduate medical programs, the introduction of bioethics education into the curriculum was left at the discretion of medical colleges in Pakistan (Riaz et al., 2023). Bioethics is taught in almost all medical schools in Malaysia (Sim et al., 2019) and Hong Kong (Becker, 2005). Although Bioethics has come to secure a definite position within the fields of policy making, medical treatment, and research in Japan, bioethics incorporation to undergraduate medical curricula is still in its developmental stage (Akabayashi, 2009), where 60.8% of medical schools were found to offer bioethics training in the first year of the programme, with only 11.4% offering bioethics teaching during the clinical years (Kosik et al., 2014).

Most teaching and learning activities in bioethics were found to be sporadic contributed mostly by a lack of teachers well versed in bioethics (Iqbal & Khizar, 2010; ten Have & Neves, 2021; Van McCrary, 2001). Universities have a limited capacity to provide professional training of ethics and moral philosophy to sustain teaching quality (Ngan & Sim, 2021). Another common challenge is limited curriculum time to include ethics in the packed medical teaching timetable (Ravindran, 2008). In most instances bioethics was not taught as a formal part of the curricula, which made bioethics an optional course (Riaz et al., 2023).

Significant differences were observed in bioethics curricular content and objectives, methods used to teach bioethics concepts, and the period of undergraduate curricula where bioethics teaching in incorporated (i.e., first year before clinical exposure vs fifth year during clinical exposure) (Martins, Santos, Ricou, et al., 2021; Ravindran et al., 1998; Shaikh & Humayun, 2012; Sherer et al., 2017; Vaswani & Vaswani, 2015). In most medical schools in Nepal, Medical ethics, a part of bioethics is included and is being taught under Forensic medicine (Sharma et al., 2016) or behavioral sciences (Javaeed, 2019; Serodio et al., 2016; Shaikh & Humayun, 2012). Several studies conducted on both sides of the Pacific reveal a lack of consensus regarding goals/ objectives, teaching methods and assessment strategies on teaching of bioethics in undergraduate medicine (Carrese et al., 2015), with few validated bioethics curricula (de la Garza et al., 2017). Learning environments were found to be not conducive for ethical reflection by some studies (García-Mangas et al., 2016).

A study carried out in the United Kingdom in 2016 reveals the attempts of several countries towards seeking to unify the bioethics curriculum (Giubilini et al., 2016). Greenberg et al., (2016) posits the importance of understanding the relevant and common issues of a culturally diverse student body in order to define the specific high-impact topics to be addressed in bioethics education. In attempts to move away from centralizing on Western ethical issues, specific forms of bioethics for individual Asia-Pacific national contexts have been considered and attempted. Some (Alora, 2004; Alora & Lumitao,

2001b, 2001a) have described the possibility of a distinct Filipino bioethics course based on local culture and everyday life. More variations were found in evaluation of bioethics related teaching activities (ten Have & Neves, 2021).

Moral competence

Kohlberg defined moral competence as the capacity to make moral decisions and judgments (i.e., based on internal principles) and to act in accordance with such judgments (Kohlberg, 1964). Kohlberg presented six levels of development (Kohlberg, 1971), grouped in three stages of moral development. The pre-conventional stage (levels 1 and 2) is mostly observed in children, which is marked by fear of being punished. The conventional stage (levels 3 and 4) is present in most adolescents and adults, which is characterized by the perception that 'correct' moral action is based on social rules imposed by recognized authorities or institutions. The post-conventional stage (levels 5 and 6) which is the highest stage of moral competence presented by Kohlberg, is only achieved by few and for them, action is based on universal moral principles, guided by reciprocity and equality. They are not thwarted by the societal opinions and pressures. Kohlberg emphasized the importance of ensuring intellectual, social, and educational awareness to foster individual moral development (Kohlberg, 1984), where he/she develops the ability to work in groups, share decision-making and, take responsibility for their actions (Martins, Santos, Nogueira, et al., 2021). As any competence, moral competence could be developed (Lind, 2016), but contrary to moral preferences and orientations, it does regress if not properly stimulated (Bataglia, 2010). Lind (2016) developed a questionnaire, the Moral Competence Test (MCT) formerly known as Moral Judgement Test (MJT), consisting of two ethical dilemmas, that allow the subject to show his competence in applying his moral structure in adverse situations (Bataglia, 2010). In the extended version of MCT the subject is confronted with three ethical dilemmas. According to Lind, the C-score which results from the application of the MCT, reflects the individuals' ability to choose arguments against or in favor of a moral option (Lind, 2016). Accordingly, a C-scores lower than 4.9 points indicate no or little moral competence; 5 and 9.9 points reflect very low moral competence; 10 and 19.9 points, less moral competence than is necessary for choosing moral options in a dilemma; 20 to 29.9 points, sufficient moral competence to solve most ethical dilemmas; and above 30 points, a high moral competence (Lind, 2018). The is regarded as a valid and a reliable questionnaire for measuring moral competence of health professions students.

When this instrument was applied to the same cohort of medical students in at least two moments of their undergraduate education, it showed a decline of the moral competence in different countries including Germany (Lind, 2000b), Australia (Hegazi & Wilson, 2013) , Portugal (Neves Feitosa et al., 2013), and Brazil (Feitosa et al., 2013; Schillinger, 2006), cementing the concept of moral decline as a student progresses through undergraduate medical programmes. Serodio et al., (2016) explains that any educational tool based on Kohlberg's cognitive-structural theory will be affected by moral motivation. Moral motivation is strongly associated with the system of values the individual builds for him/ herself. As values are an affective investment, they suggest that teaching aimed to improve the cognitive domain be best employed with strategies aimed at the affective aspect of moral behavior.

Way forward

Self at al., (1998) suggested that bioethics teaching could lead to improved moral development leading to better ethical practice and decision making (AlMahmoud et al., 2017; Greenberg et al., 2016; Liu et al., 2018; Savitha et al., 2018). Although the aim is to improve moral competence with Bioethics teaching, the effectiveness of bioethics teaching on medical students seem inconclusive (de la Garza et al., 2017; Fernandes et al., 2012; Martins et al., 2020). The findings of such studies question the role of bioethics education in developing decision-making and the change of opinion in medical students.

Literature shows that the existing teaching methods need to be modified to achieve this goal, with curricular and organizational revision of the medical course (Lind, 2000a; Serodio et al., 2016). Some studies have shown students struggles to relate to the situations described in theory when bioethics was taught prior to starting clerkships, and their desire to learn from positive role modelling in addition to formal teaching of bioethics concepts (AlMahmoud et al., 2017; Savitha et al., 2018). Educators have emphasized that bioethics education should be integrated throughout the whole duration of medical education (Asghari et al., 2009), and should be adjusted to each real caring situation (Abma et al., 2009). Serodio e al., (2016) posits that purely expositive classes do not attract students' attention. Thus, they recommend interactive learning activities to be incorporated more into bioethics teaching. Furthermore, they suggest inclusion of pedagogical interventions aimed at the affective aspect of moral behavior, use of cultural goods (plastic arts, literature, plays and movies) to enable students' reflection on the system of values they are building and how those will serve as a foundation for their personal and professional lives. Technical issues aside, studies reveal the importance of overcoming the considerable influence of the hidden training curriculum (Souza & Vaswani, 2020) which cannot be controlled and significantly undermines the consistency of bioethics teaching (Mahajan et al., 2016) which requires further investments into the teaching of bioethics concepts (AlMahmoud et al., 2017; Vergano et al., 2019). Moreover, several studies recommend facilitation of discussion on ethical issues experienced in clinical practice, resorting to moral deliberation, the exchange of experiences, and the sharing of concerns and doubts within a good learning environment (Abma et al., 2009; Asghari et al., 2009; Heidari & Ebrahimi, 2016; Roberts et al., 2007; Schillinger, 2006; Serodio et al., 2016; Zoboli, 2013).

Recent studies advocate for tailoring bioethics curricula to each culture (Tavares, 2022). Moreover, the diversity of present-day student body in a medical school must also be weighed in when teaching bioethics concepts. Disregarding the learner diversity causes bioethics educators to neglect important differences in the moral understanding of different religious and ethnic groups (Turner, 2001). Unresolved ethics issues can negatively affect the quality of patient care and the culture of healthcare organizations (Nelson et al., 2010). Thus, bioethics education must be mindful of the values it imposes upon the learner (Greenberg et al., 2016). Bioethics education should facilitate identification and understanding of cultural contexts for the educators to determine the best methods to obtain the intended learning outcomes. Medical educators have emphasized the need for a greater curricular allocation to enable the future physicians to address 'the wide range of cultural, environmental and ethical issues that will increasingly impinge on the problems of health' (GMC, 2009).

Conclusion

The current review reveals that heterogeneity still exists in the planning of the curricula, teaching, and assessment methods. There is an evident need for longitudinal and integrated programs making bioethics part of students' life as opposed to sporadic events at one phase of their education. The assessment of bioethics education is still a challenge, which depends mostly on reflections and development of portfolios. Collaborative teaching between ethicists and clinicians with more prominent teaching parallel to clerkships enables learners to discuss and reflect on everyday ethical issues. Contextually relevant bioethics curricula may advance the moral competence and the decision-making power of future clinicians.

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