

Review of ethics teaching in undergraduate medical education

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Abstract

Objectives: To provide an overview of existing literature regarding ethics in undergraduate medical education around the world, and to identify gaps in literature for recommending areas for future research.

Methods: The scoping review was conducted in March 2016. PubMed and Web of Science search engines were used to identify English language literature on ethics in undergraduate medical education published over the preceding 20 years. Google search was used for grey literature. Two reviewers independently screened eligible studies for final study selection and review. Descriptive analysis of data was performed with mutual consensus.

Results: Of the 199 items located, 56(28%) were included; 37(33%) of 112 studies, and 19(22%) of 87 pieces of grey literature. Papers covered almost all regions of the world, including North and South America, Europe, Africa, and different Asian regions like Middle East, central, south-east and far east. The analysis identified several curriculum designs and teaching methods used for ethics education.

Conclusion: The review identified gaps in evidence that required further research. These areas include theoretical underpinning of ethics curriculum, role of educators, standardisation and validation of teaching and learning strategies, and relevance to cultural context in the development and delivery of ethics curriculum, especially in Asian regions.

Keywords: Ethics education, Undergraduate, Medical education, Review.

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Introduction

Only few decades ago ethics was considered a part of the undefined, implicit curriculum which students were expected to learn "on their way" to graduation through peers and role-models.¹ This learning was, at best,

opportunistic, sporadic, poorly calibrated and difficult to assess. Recent evidence shows that ethics is now a component of the formal curriculum in most medical institutions, with empirical reports from different parts of the world on the use of variable methods for content delivery.²⁻¹⁰ However, there is limited evidence on the effectiveness of the methods in achieving outcomes required of ethics courses.^{11,12} Practising medical ethics is now considered an essential core competency for medical graduates¹³ and has become part of the formal curriculum in almost all healthcare education institutions.^{6,12}

In 2000, Goldie stated that there is general agreement among educationists to apply adult education principles to ethics teaching.¹⁴ However, Singer argued for consensus on underlying educational philosophies and their implementation for ethics in undergraduate medical education.¹⁵ Their concerns for linking ethics education with theoretical underpinning have been consistently echoed by subsequent educationists.^{16,17}

To add to the complexities of ethics education, the socio-cultural context of a region or country often influences the content and delivery of such educational endeavours. These complexities are especially notable in reports coming from countries like Saudi Arabia and Pakistan.^{6,10} Such countries have their own moral value systems, different from the Western secular social system. The Western system has given rise to most of the details published regarding contemporary ethics education, including the underlying moral philosophy, content, methods of delivery and contextuality.¹⁸ In this context, there is a severe dearth of substantial evidence for developing a thoughtfully designed and contextually tailored educational approach.^{14,18}

The current systematic review was planned to provide an overview of existing literature regarding ethics education in medical institutions in different parts of the world. The paper identifies areas in undergraduate medical ethics education where further research is required to inform the educators. The review also examines evidence coming from differing regions and its implications for ethics education.

Methods

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Table-1: Scoping review methods (Arksey, O'Malley 2005).¹⁹

Stages of review process		As used in current review
1	Identifying the research questions (RQ) (develop broad RQs to guide the review)	RQs: 1.What is published in literature regarding various aspects of undergraduate medical ethics education from different parts of the World? 2.What are the types and sources of evidence available to educators to inform development and implementation of ethics courses in undergraduate medical education, within their context?
2	Identifying relevant studies (define parameters to guide search strategy)	Inclusion criteria: ♦ Published in English language in ISI indexed or non-indexed journals ♦ Primarily focused ethics in physicians' undergraduate medical education ♦ Published between January 1996 - December 2015 ♦ All types of articles that are available in full text Exclusion criteria: ♦ Articles that primarily focused professionalism, law and legal systems were also excluded
3	Study selection (select the studies that are relevant to the RQ)	Two-part study selection process: 1.The titles were reviewed by a single reviewer to determine eligibility based on criteria stated above. Any uncertainty with a title did not eliminate the paper at this stage. 2.Two independent reviewers examined the titles and abstracts using the eligibility criteria. Where discrepancy arisen, the reviewers discussed the article to get to a consensus.
4	Charting the data (gather the information on and from the relevant studies)	Selected manuscripts were reviewed for issues in undergraduate medical ethics education. Data were systematically charted using the charting form, developed from data extraction framework (Table-2). A descriptive analysis of data was performed by consensus between the two assessors. A key finding from each paper was recorded on the data charting form.
5	Collating, summarizing and reporting the results (findings from the review)	The information that was organized on the data charting forms was used to collate and report the identified overall state of published evidence on undergraduate medical ethics education in last 20 years. Content of selected papers was analysed to identify and discuss issues in different regions and gaps in the body of available evidence on the topic.

Table-2: Data-extraction framework.

General characteristics Standard information	Characteristics of manuscript	Ethics education information
Year of publication	Type of manuscript	Educational philosophy/ Curriculum design
Country/ Region	Purpose	Content/ topics
Type of Journal	Issues identified	Teaching strategies/ implementation
	Conclusion	Assessment and evaluation
		Local/ cultural context

The systematic review of literature on undergraduate medical ethics education was conducted in March 2016. A scoping review methodology framework.¹⁹ was considered appropriate because it is particularly useful for exploring the literature for identifying gaps in specific areas, such as ethics education. The framework outlines a five-stage approach, and each stage of the framework was considered during the current research (Table-1). Relevant data was extracted from each study (Table-2).

PubMed and Web of Science electronic databases were searched for studies, while Google was searched for grey literature. Combinations of "Ethics", "Medical Education" and "Undergraduate" were used as key words for the preliminary search. Publication titles from the initial search were reviewed by two authors for refinement of

key words, where "Healthcare" and "Teaching" were added in the list. The filtering methods included the date range (within the preceding 20 years), English language, and a search string to further narrow the results to full-text articles. Boolean term 'and' was used between each of the key words.

The scoping review of published articles did not require ethical approval.

Results

Of the 199 items located, 56(28%) were included; 37(33%) of 112 studies, and 19(22%) of 87 pieces of grey literature (Figure).

Overall, 23(41%) papers were published from 1996 to 2005, and 18(32%) were published from 2011 to 2015. The studies related to almost all global regions, including Asia,

Table-3: General characteristics of included articles.

Characteristic	Number (n=56)	%
Publication year		
◆ 1996 - 2000	8	14.2
◆ 2001 - 2005	15	26.7
◆ 2006 - 2010	15	26.7
◆ 2011 - 2015	18	32.1
Publication type		
◆ Original study	23	41.0
◆ Surveys	6	10.7
◆ Review	5	8.9
◆ Descriptive report	7	12.5
◆ Commentary	11	19.6
◆ Opinion, essay	4	7.1
Journal type		
◆ Education (Healthcare)	21	37.5
◆ Ethics	17	30.3
◆ Healthcare general	13	23.2
◆ Healthcare specialty	3	5.3
◆ Others	2	3.5
Region		
◆ Africa	4	7.1
◆ Asia	14	25.0
◆ Australia	2	3.5
◆ Europe	20	35.7
◆ North America	13	23.2
◆ South America	3	5.3

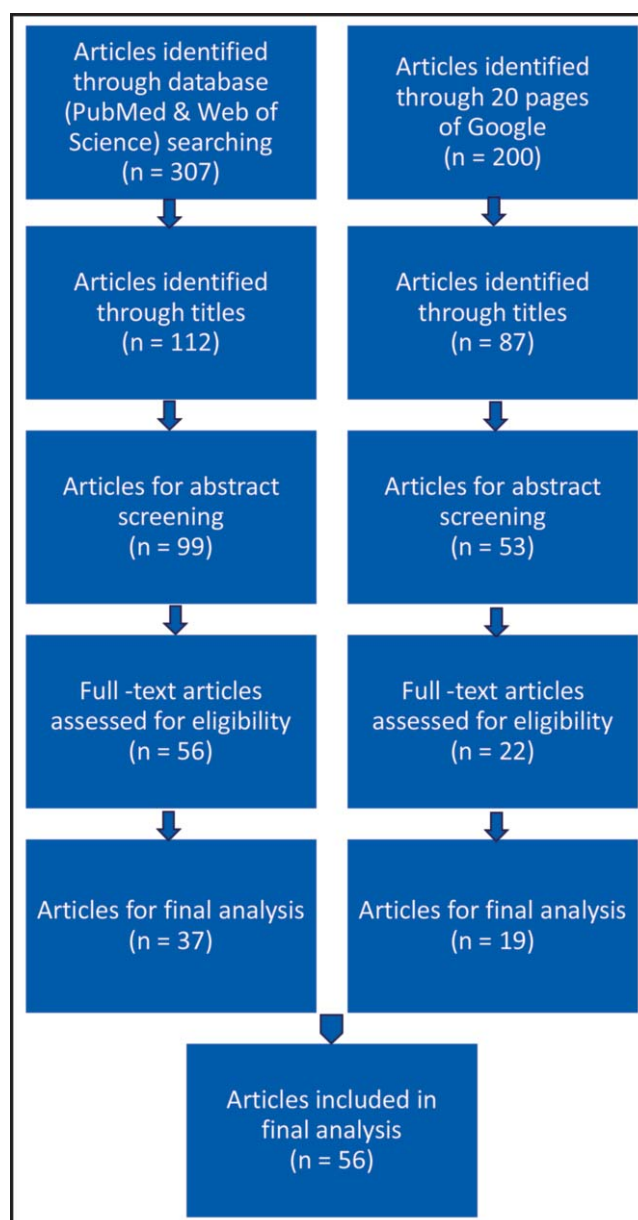
Africa, Australia, Europe as well as North and South America. Publication and journal types were also noted (Table-3). The review found only 2(3.6%) articles relating to the theoretical or philosophical basis of ethics education; 1(50%) mentioned the theoretical approach while explaining the curriculum design, and 1(50%) referred to the deficiency of a theoretical approach in relevant literature. Local context was mentioned in 22(40%) papers. None of the reviewed articles explored the theoretical basis or effect of cultural context on ethics education in significant depth. The findings of all the studies were summarised in five categories (Table-4).

Discussion

The primary purpose of this review was to identify areas in undergraduate ethics education where more research is required. This scoping review identifies the gaps in the literature on undergraduate ethics education and tries to provide an overview of the situation through geographically mapping the gaps. Thereby, the review identifies not only what the deficiencies are, but also where the deficiencies are.

Need for ethics education

A significant number of publications have supported the need for thoughtfully structured curriculum for

**Figure:** Flow diagram.

motivation of those involved in, and need for evaluation of, undergraduate medical ethics education. Also discussed in articles published between 2011 and 2015 coming from countries like Brazil, India and Pakistan where ethics education is a relatively recent development (Table-4). On the other hand, articles published from countries like Australia, Japan, South Korea, Singapore, Taiwan, United Kingdom (UK) and United States of America (USA), where ethics education has been part of formal curriculum for some time, discussed the use of innovative teaching/ learning strategies, role of facilitators, and standards and validation (Table-4). This

Table-4: Scoping review summary of evidence.

Topics	Message	Country (reference)
Need for ethics education	Thoughtfully structured ethics education is required in undergraduate medical education for optimal teaching and assessment of the recommended curriculum. There is also a need for motivation of all the stakeholders in this regard. Proper evaluation studies to identify gaps in evidence on ethics in undergraduate medical education is needed.	South Africa, ³² UK, ¹⁴ USA, ³³ Mexico, ³⁴ UK, ³⁵ South Africa, ³⁶ Pakistan, ⁷ Brazil, ³⁷ India, ³⁸ Pakistan, ²⁹ India ³⁹
Teaching and learning strategies in ethics education	Several educational strategies have been shown to be effective in teaching and learning of ethics in medical education. These include use of ethical dilemmas in integrated small group sessions, standardized patients, ward round model, team-based approach and problem-based learning methods.	Canada, ²⁰ USA, ⁴⁰ Japan, ⁴¹ UK, ¹⁴ UK, ⁴² UK, ⁴³ UK, ⁴⁴ USA, ¹⁶ Korea, ²⁶ Australia, ²² Taiwan ²³
Role of facilitators and teachers in ethics education	Teaching of medical ethics is an obligation of all medical teachers. They have an important role in making the students learn the relevance of medical ethics to clinical practice, and in establishing a climate where constructive criticism of colleagues' actions is acceptable. Proper teacher training should be implemented for ethics education.	UK, ⁴⁵ UK, ⁴⁴ USA, ⁴⁶ UK, ⁴⁷ UK ⁴⁸
Theoretical basis of ethics curriculum	The educators should identify the theoretical framework for developing the empirical basis of future ethics curriculum.	UK, ¹⁴ USA ¹⁶
Standards and validation in ethics education	Organized efforts for the improvement and validation of ethics education is required with standardized and validated assessment and evaluation methods.	UK, ⁴⁹ USA, ¹⁶ Singapore, ⁵⁰ UK ⁵²

distinction reflects the level of development of ethics education in different world regions. Stakeholders, like statutory bodies, universities and community stakeholders, in countries which responded to the need are now advancing on the way to improving ethics education, while others are still struggling to commence their journey.

Teaching and learning strategies and the role of facilitators

The reviewed publications discussed different teaching and learning methods and the role of facilitators/teachers in ethics education. The publications discussed a range of teaching and learning strategies being used including ethical dilemmas in small group sessions, standardised patients, ward round model, team-based learning (TBL) and problem-based learning (PBL). They identify the need to clearly articulate standards for effective ethics education while using the strategies. Among the different strategies used, the review shows emphasis on small group teaching (SGT) with the use of ethical dilemmas and case scenarios for eliciting dialogue with students. In this regard, Goldie¹⁴ showed the enhanced effectiveness of SGT compared to large-group lecture-based learning (LBL) methods in ethics education. He evaluated the process of ethics education and concluded the importance of effective facilitation during the process of SGT. Onge²⁰ and Miyasaka et al.²¹ suggested narrative approach, using stories, ethical dilemmas, conversations and life experiences, in small groups. Parker et al.²² and Yu-Chih Lin²³ evaluated this approach by conducting pilot studies in their respective institutions. Both pilot studies showed effectiveness in providing opportunities to students for discussing relevant issues in a safe environment. A study²⁴ supported a similar method in

student-led seminars, while another²⁵ suggested peer-based ethics teaching along with narrative approach. Chung et al.²⁶ studied the application of TBL, and reported improved student performance, especially that of academically weaker students, and increased student engagement and satisfaction. Although a number of studies and review articles have described the use of different methods for ethics education, none of the published works provide substantial evidence for guiding validation and standardisation of teaching and learning methods.

Theoretical basis

Another area of concern was theoretical underpinning of ethics education. The review identified only two publications, from UK¹⁴ and USA,¹⁶ which considered the theoretical basis for developing ethics curricula in their manuscripts. Among these, Goldie used the Harden et al.'s SPICES (Student centered, Problem-based, Integrated, Community based, Electives and Systematic) model¹⁴ while reviewing the design of ethics curriculum, and Eckles et al.¹⁶ reported the need for theoretical work for developing core content, processes and skills relevant to medical ethics. The paucity of evidence on theoretical underpinning in ethics education found in this review should be seen as a matter of unease for educators.

Contextual bias in publications

Significant disparity was also found between articles published from different regions compared to the number of medical schools in the regions. The large number of medical schools in different areas (Table-5) do not correspond to the number of published articles on ethics education. Less than 20% of world medical schools are in the UK and the USA combined. Nevertheless, 52% of literature on ethics education has originated from the

Table-5: Number of medical colleges in world regions and countries.⁵¹

Region (total number)	Country	Medical colleges
North America (197)	United States of America	180
	Canada	17
English Speaking Europe (78)	United Kingdom	36
	Ireland	7
	Sweden	7
	Denmark	4
	Malta	1
Southwest Pacific (23)	Australia	20
	New Zealand	3
Middle East Asia (147)	Iran	55
	Saudi Arabia	33
	Iraq	24
	Libya	10
	Lebanon	7
	United Arab Emirates	6
	Israel	5
	Bahrain	3
	Oman	2
	Qatar	2
South Asian Sub-continent (573)	India	369
	Pakistan	100
	Bangladesh	67
	Nepal	19
	Afghanistan	13
	Sri Lanka	9
Southeast Asia (178)	Indonesia	74
	Philippine	43
	Malaysia	25
	Thailand	21
	Viet Nam	10
	Singapore	3
	Cambodia	2

two countries. Hardly any publication from regions with large number of medical schools in Asia were found discussing issues like theoretical basis of core content, teaching and learning strategies, standards, validation, and role of educators in the educational process. A number of possible reasons, like limited resources for evaluation and/or lack of technical and financial support for publications, can be assumed for this finding. However, the situation cannot be improved unless there is evidence available on the cause. Hence, there is a need for further research in this area.

Cultural relevance

Ethics curriculum is generally relevant to cultural norms in the region. The articles originating in Australia, Canada, UK and USA have reflected on issues of polarisation of students and cross-cultural ethics (Table-4). Their primary concern is to develop an ethics curriculum for students coming from different cultures

and backgrounds. On the other hand, students in most of middle-eastern and southern Asian regions are from similar cultural backgrounds, as also reflected in this review's findings. However, there is little published research, particularly from Asian countries, and, therefore, it is impossible to know whether a shared set of moral principles govern medicine in these similar cultures or is this a form of cultural imperialism. Literature from these regions stress upon the need for ethics curriculum that is relevant to cultural needs and societal norms.^{18,27,28} The reviewed publications that have mentioned the issues of cultural context include personal opinion²⁹ and description of innovation in ethics education in one institute.⁷ These isolated publications cannot be considered sufficient to establish evidence in this matter. Hence, this review identified a major gap in the medical education literature regarding the importance of cultural factors in ethics education in different parts of the world and the validation of culturally relevant ethics curricula. Future studies may also explore whether the issues of cultural diversity and pluralism are influences in Asian countries or not.

Significance of evidence

There are different levels of evidence in scientific educational research. Although all levels of evidence are important, they cannot be considered of equal value. The impact factor of a journal measures citation frequencies and is used to assess relative importance of a scientific journal.³⁰ The impact factor of a journal may not be the best measure of the quality of articles but it is readily available and universally accepted.³¹ In this review, the majority of studies published in peer-reviewed journals with impact factor are from relatively developed countries of different regions, like Australia, Brazil, Denmark, South Korea, Singapore, South Africa, Taiwan, UK and the USA. The deficiency of publications in journals with impact and impact factor from regions which host the largest number of schools graduating healthcare professionals reflects an area of concern that needs further exploration.

Limitation

This review identified overall gaps in literature on ethics in undergraduate medical education rather than the quality or level of research data and scientific evidence. The review looked for evidence published in English language only. There may surely be data in other languages that is completely missed in this work. The discussion is, therefore, predominantly revolves around ethics education in countries and regions where English language is the medium of medical education.

Conclusion

There is a dearth of evidence in literature relating to different aspects of ethics education in medical and academic institutes. The review identifies areas with gaps in evidence that require further research. These areas include theoretical underpinning of ethics curriculum, role of educators, standardisation and validation of teaching and learning methods, and relevance to cultural context in the development and delivery of ethics curriculum, especially in Asian regions. The review also identifies disparity in number of research publications from regions which host a large number of medical schools, which is food for thought for researchers and journal editors.

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