Simulation: teaching medical ethics to first year medical students within the United Arab Emirates.

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RESEARCH ARTICLE

Simulation: Teaching Medical Ethics to First Year Medical Students within the United Arab Emirates [version 1]

Helen Henderson[1], Ian Ballard[2], Laila Alsuwaidi[2], Rekha Thomas[2], Mutairu Ezimokhai[2]

[1]Mohammed Bin Rashid University of Medicine & Health Sciences
[2]Mohammed Bin Rashid University of Medicine & Health Sciences

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Abstract

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In today's healthcare world it is important to equip medical students with the knowledge, challenges and solutions to handle ethical dilemmas. Whilst there is no recommended format for how medical ethics should be taught it is recognized that students prefer a learner-centred approach. In a new medical college within the United Arab Emirates a simulation based medical education approach was adopted for first year, semester one medical students to support the taught theoretical underpinnings. Simulation scenarios which focused on the main ethical principles as well as the Islamic principles particularly in relation to the beginning and end of life were developed. Students were exposed to a variety of scenarios and were required to interact with standardized patients. Feedback from the students showed that 100% of them were in agreement that the simulation scenarios helped to support the theory taught in class. Simulation based medical education has the opportunity to enhance the undergraduate medical curriculum as well as to raise awareness of ethical dilemmas that students will face when qualified.

Keywords

simulation-based medical education, medical ethics, scenarios

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Description of a new education method or tool Open Access

Simulation: Teaching Medical Ethics to First Year Medical Students within the United Arab Emirates

Helen Henderson[1], Ian Ballard[2], Laila Alsuwaidi[3], Rekha Thomas[4], Mutairu Ezimokhai[5]

Corresponding author: Ms Helen Henderson helen.henderson@mbru.ac.ae

Institution: 1. Mohammed Bin Rashid University of Medicine & Health Sciences , 2. Mohammed Bin Rashid University of Medicine & Health Sciences, 3. Mohammed Bin Rashid University of Medicine & Health Sciences, 4. Mohammed Bin Rashid University of Medicine & Health Sciences, 5. Mohammed Bin Rashid University of Medicine & Health Sciences

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Abstract

In today's healthcare world it is important to equip medical students with the knowledge, challenges and solutions to handle ethical dilemmas. Whilst there is no recommended format for how medical ethics should be taught it is recognized that students prefer a learner-centred approach. In a new medical college within the United Arab Emirates a simulation based medical education approach was adopted for first year, semester one medical students to support the taught theoretical underpinnings. Simulation scenarios which focused on the main ethical principles as well as the Islamic principles particularly in relation to the beginning and end of life were developed. Students were exposed to a variety of scenarios and were required to interact with standardized patients. Feedback from the students showed that 100% of them were in agreement that the simulation scenarios helped to support the theory taught in class. Simulation based medical education has the opportunity to enhance the undergraduate medical curriculum as well as to raise awareness of ethical dilemmas that students will face when qualified.

Keywords: simulation-based medical education, medical ethics, scenarios

Introduction

Medical ethics is a fundamental component and an essential facet of healthcare. It has only been in the last 30 years that teaching medical ethics has been formally included within the medical curriculum following the Pond Report (1987) and the publication of Tomorrow's Doctors (1993). It is now recognized as important and central in undergraduate medical curricula (Sherer et al 2017; General Medical Council 1993; Miles et al 1989, Institute of Medical Ethics 1987). The purpose of integrating medical ethics into the medical curriculum is to provide

opportunities for understanding and analysing ethical dilemmas, and guide doctors in making thoughtful ethical clinical decisions (Beigy et al 2016). New graduates need to understand and possess high personal and professional values and comprehend the ethical and legal issues that can arise through the practice of medicine (General Medical Council 2009). In addition, they need to care for their patients in a fair way respecting their patient's autonomy and rights and maintaining their dignity (Stirrat et al 2010).

The General Medical Council (GMC) United Kingdom, stated that medical ethics and law should constitute one of the fundamental components of medical curriculum (General Medical Council, 1993, 2015). A consensus statement in 1998 detailed a minimal core programme for undergraduate medical schools (Consensus Group of Teachers of Medical Ethics and Law in UK Medical Schools 1998). The World Medical Association (2015) more recently produced a module for teaching medical ethics to undergraduates which included core content, and learning objectives. The World Health Organization (1995) recommended that medical ethics should be an essential part of medical education and that the teaching of it should be mandatory in all medical schools across undergraduate and post graduate programs.

Further recommendation was that medical ethics should be embedded within the medical curriculum both horizontally and vertically and not regarded as a stand-alone subject or an optional component (Stirrat et al 2010). The GMC Outcomes for Graduates (2015) recommended that new UK medical graduates must be able to demonstrate ethical and professional values.

Whilst there is agreement on the core content of medical ethics education for undergraduates (Stirrat et al 2010), there is no agreement on the best learning and teaching methods that should be used (Stirrat et al 2010, Voo et al 2017). Rather, there is a wide variety of teaching and assessment methods used in medical schools to teach medical ethics (Goldie 2000). Many medical schools include medical ethics curriculum as a separate course in the first or second year in the format of lectures or tutorials (Fox et al 1995). In the UK one study reported that only 45% of schools taught ethics and as a separate topic with the majority reporting that it is taught in classrooms (Brooks & Bell 2017). The majority of teachers of medical ethics in China have backgrounds in humanities or social sciences rather than in medicine and there is a tendency to teaching the theories and principles of ethics whilst not relating them to clinical practice ethical dilemmas (Sherer et al 2017).

There are a limited number of reviews of the literature on the effectiveness of teaching medical ethics in undergraduate medical education and there is no recognized single best model for delivering medical ethics education (De La Garza et al 2016, Eckles et al 2005). The main approaches to teaching medical ethics include: didactic teaching, case review and small group discussions. The lecture-based courses for teaching medical ethics in medical schools is argued to be insufficient for training "good doctors" as it does not empower students to use their knowledge in clinical reasoning (Beigy et al 2016). The traditional approach is to provide the students with the knowledge and cognitive skills to enable them to make ethical decisions (Callahan & Bok 1980). With this approach ethics has been taught in first or second year and the content often includes ethical theories, moral principles, codes of medical ethics and a range of clinical issues (Fox et al 1995).

Role modelling is another important method of imparting ethical principles to students. This is viewed as part of the hidden curriculum (Voo et al 2017). However, the assumption is that seniority assures ethical perceptiveness (Campbell et al 2007)!

The World Health Organization (1995) recommended that teaching should involve active student participation with the didactic component restricted to basic concepts and codes of conduct.

A widely used approach has been case review and discussion where students are encouraged to discuss and explore

difficult ethical dilemmas based on the case. There has been widespread support for this case-based approach instead of focusing on the theory (Fox et al 1995). Students using case studies state the approach that they would take in a particular situation, however this does not explore the student's communication skills or allow the scenario to necessarily unfold and thereby guide the student moving from comprehension to application (Buxton et al 2014). In addition, a systematic review was inconclusive about the effectiveness of case-based teaching despite evidence showing that students enjoyed it (Thistlethwaite et al 2012). One study from Saudi Arabia (Aldughaither et al 2012) where ethics is taught to first and third medical year students showed that more than 85% of the students felt that the mode of instruction should be changed from lectures, case based lectures and large group discussions.

Literature supports the use of a learner-centred format or student based programs which involves the students in role playing obtaining informed consent, breaking bad news and communicating do not resuscitate orders (Beigy et al 2016; Loike et al, 2013). Simulation-based medical education (SBME) is a powerful educational strategy enabling students to practice and demonstrate competence in areas including knowledge, skills, critical thinking and communication thereby enriching learning experience (Motola et al 2013; Salas et al 2013; Bensfield et al 2012; Issenberg et al 2005). It provides a bridge between didactic and observational learning to clinical practice using experiential learning, however it has rarely been used to teach medical students about ethical conflicts or to assess their understanding of ethical principles applied to difficult clinical decision making (Tritrakarn 2014). Simulation-based learning also provides a platform for medical students to freely practice their understanding in ethical principles and reasoning to learn from possible mistakes than jeopardizing a patient when in practice (Al-Elq 2010).

Ethics education must, in addition, to the traditional values seek to foster contemporary cultural sensibilities in medical students (Voo et al 2017). This includes understanding of impact of religious affiliations of patients. Islam is predicted to be the largest religion in the world by 2070 and yet little information has been published on teaching undergraduate students on Islamic medical ethics. Within the sphere of the doctor-patient interaction ethical conflicts can arise due to religious and cultural differences (Padela 2007). Medical students need to be educated on the sensitivities to religious and cultural views different to their own. Simulation offers a practical method for teaching Islamic medical ethics without risk of hurting sensitivities.

It has also been recommended that medical ethics should be taught early within the undergraduate curriculum and reinforced throughout the course and that it should be integrated with other comparable subjects such as clinical communication (Stirrat et al 2010).

In line with this it was decided to introduce SBME to the Introduction to the Practice of Medicine Course, which includes professional medical ethics in the first semester of the first year of the medical curriculum in a new medical college in the United Arab Emirates. The intention was that it would complement the theoretical component and assist in helping students to link the theory to practice by demonstrating a variety of ethical dilemmas where students would have to participate and reflect. It was important to establish if the students found the simulation approach an acceptable and feasible way to learn. This study evaluates the student experience of using simulation to teach medical ethics and professionalism.

Methods

Students participated in the simulation sessions throughout November 2016 with a new cohort participating in November 2017. Medical students (n=55 & n=38) received the theoretical component of ethics teaching delivered using a mixture of approaches: lectures, flipped classroom approach and tutorials at the start of the semester, in a one credit course. Then they were exposed to scenarios that addressed the ethical principles of: respect for autonomy;

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beneficence; non-maleficence and justice. Scenarios, in addition focused on truth-telling, duty of care, professionalism and addressed components of ethics in Islam with regards to the Islamic Principles, Islamic *Fiqh* and general Islamic teachings focusing on the beginning and end of life.

Students were divided into two sections and each section was subdivided into three groups with a maximum group size of 8 students. The students attended the simulation centre three times within the course. This was for an introduction to medical ethics, followed by the beginning of life scenarios and then the end of life scenarios. Each group of students was exposed to a maximum of 9 scenarios. One student per group volunteered to take part in each scenario. The active student was given a student information sheet of the scenario and given time to read it before being introduced to the simulated patient. The rest of the student's group observed the scenario and interaction via a video capture. The students who were observing were required to critique the student participating in terms of their communication skills, the participant's ability to address the issue in this case and whether they were in agreement with the outcome (see Table 1). All students were required to sign a confidentiality agreement at the start of the course.

The scenarios took place in a range of settings within the simulation centre. These included consulting rooms, wards and the ICU environment. Each section was given an overall introduction to the day's simulation activities and then the groups were allocated to their appropriate debrief room for a 5-minute pre-brief, followed by a 10-minute scenario and a 15-minute debrief before they moved onto their next scenario. Within the debrief component the students are guided by the facilitators to reflect on the scenario and decisions made using the theoretical knowledge gained in the earlier part of the semester. The Gibbs model of reflection is used to structure the de-briefs of all the scenarios (Gibbs 1988). At the end of the session all the groups reassembled for a summary of the main points, an opportunity for any questions and to complete the evaluation.

Standardized patients (SPs) were used in all of the scenarios to act out a variety of roles. All SPs had previously received training and been assessed for their skill in playing a variety of roles. All SPs were included in the de-brief and invited to constructively contribute in terms of their perspective into what had gone well and what could have been improved.

Scenarios were written by the simulation team in-line with the content in the course study guide and approved by the course coordinator to ensure that they addressed the program learning outcomes which included: "describe the principles of biomedical ethics; apply the principles of biomedical ethics in patient-centred care and demonstrate professional behaviour towards self, patients, colleagues, and society" (see Table 2).

At the end of every session, students were asked to complete a pilot evaluation form which was created in-house and not previously tested for validity or reliability. They selected the relevant words that best described the session for them. Students had the opportunity within the questionnaire to choose words from a word cloud format which contained an equal number of positive and negative words. The positioning of the words changed to ensure that there was no bias to positive statements. In addition, they were asked: "did the session help support the theory already learnt in class and if there was anything that they would have liked to have seen done differently". Changes were made on receipt of the feedback. Twenty percent of the assessment mark for the course was allocated to participation at the simulation centre.

The study qualified for exemption from review under the following categories:

- Research conducted in established or commonly accepted educational settings, involving normal educational practices
- Research involving the use of educational tests

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This was confirmed by Professor Essa Kazim, Chairman of the MBRU-IRB.

Results

Tables (1. Students 2. Methods, 3 & 4 Results)

The results from the questionnaires showed that 100% of the students stated the session helped to support the theory already learnt in class, 75% wanted more simulation, 88% found the sessions a positive learning experience, 86% reported that the sessions made them think and found them informative. No negative words were highlighted throughout the weeks. In answer to "what one word would you use to describe today's session" students wrote: fun, unique, informative, exceptional, innovative, perfect, intense and satisfying.

An additional question was added into the second cohort's questionnaire where students were asked to state their preferred method of teaching from: lecture, tutorial, simulation and from the material shared on the learning management system. The results from this question (Table 3 & 4) showed that 85% ranked simulation as their most preferred method (with 6% ranking it jointly as first choice alongside tutorial), 12% ranked it as second to tutorial and 3% as their third preference after tutorial and lecture.

Discussion

The results have clearly showed that students have found it a worthwhile process and are requesting for more simulation opportunities to enhance their learning. Using simulation as a method of teaching comes with some challenges. The human resources required (knowledgeable facilitators, trained and experienced simulated patients), the need for scheduling and organization of different groups, development of appropriate scenarios, present different challenges than those faced when delivering lectures or running case reviews. Nonetheless, simulation has been shown to be beneficial in incorporating experiential learning into the undergraduate medical curriculum (Heitz et al 2010). Simulation has also shown to be effective in the teaching of basic and clinical knowledge, teamwork and communication (Wang et al 2013). The results here showed that the students actively engaged with the simulation, and found it a preferable method of learning. In terms of cost and time, return of investment for medical simulation is an understudied field with the cost effectiveness still to be determined (Van de Ven et al 2017).

An avenue that has not yet been explored within this ethics course is using the clinical simulation for assessment purposes apart from participation and attendance. This is perhaps an area that could be developed and included as part of assessment in later years as a component of OSCEs. The simulation scenarios were designed to complement the theory taught and to help the students to illustrate the relevance of ethical principles in their future clinical practice. It was therefore aimed as being a formative experience and one that would help them to reflect on their own views and opinions as well as learning about different cultural ethical perspectives.

There are limitations to the feedback as it was not possible to compare groups to establish if the students who have undergone the simulation sessions have a greater appreciation and understanding of medical ethics, or a better understanding of their own ethical views, than those who have not experienced it.

Conclusion

Populations are becoming more culturally diverse and medical students and practitioners are more on the move globally exposing them to cultural and social attitudes, values and beliefs different from their own. It is important therefore that a better understanding of different cultural values and ethics are explored to help prepare the physician of the future.

This study shows that SBME has the potential to be used to facilitate the teaching of medical ethics. It has the opportunity to enhance the undergraduate medical curriculum as well as to raise awareness of ethical dilemmas that students will face when qualified. If used appropriately it should encourage medical students to express and justify their decisions in ethical issues, using the principles of medical ethics and the Islamic principles to guide them.

Take Home Messages

Take Home Messages:
• SBME has a role in the teaching of medical ethics to undergraduate medical students
• The teaching of medical ethics has no single best mode of delivery
• Medical ethics should be introduced early into the medical curriculum
• SBME enhances the theory taught in lectures and tutorials

Notes On Contributors

Helen Henderson is the Lead Simulation Educator at the Khalaf Al Habtoor Medical Simulation Centre (KHMSC, MBRU). She leads on embedding simulation based medical education into the undergraduate and postgraduate programs. She is a Certified Healthcare Simulation Educator (CHSE) and has contributed to international review groups for simulation educators.

Mr. Ian Ballard is the Manager of KHMSC. He is a Certified Simulations Operator and has been on international review groups for Simulation Operations. He has participated and spoken at International Conferences on simulation. He also has an active role in the education in Undergraduate and post graduate courses.

Ms. Rekha Ann Thomas is a Clinical Research Professional at the College of Medicine, MBRU and assisting in the Curriculum and Research committees as well as on the Institutional Review Board.

Dr Laila Alsuwaidi is an Assistant Dean for Student Wellbeing and Happiness, Assistant Professor of Molecular Haematology at College of Medicine in MBRU. She participated as a guest speaker and chairperson in number of professional committees and conferences. She also served as mentor of graduate students & author of several manuscripts.

Professor Mutairu Ezimokhai is Professor of Obstetrics and Gynecology at Mohammed Bin Rashid University of Medicine and Health Sciences(MBRU). He co-ordinates and teaches in the Course on Introduction to the Practice of Medicine offered in the first two semesters of the six-year curriculum. In addition to Medical Education, he is

interested in Hypertension in Pregnancy.

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Appendices

Table 1. The student peer review rating tool						
	The Participant	poor	fair	good	Very good	excellent
1	How would you rate the participant's communication skills?	1	2	3	4	5
2	How would you rate the participant's ability to address the issue in this case?	1	2	3	4	5
3	Are you in agreement with the outcome from the scenario?	Yes		No		

Table 2. **Part A: Introduction to Medical Ethics**			
Learning objectives for the introduction session	**Clinical Scenarios**	**Scenario theme**	**Ethical Principles addressed**

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• Understand the ethical dilemma and the process of Ethical Decision Making • Explain the Principles of Medical Ethics • Develop effective communication skills • Appreciate the implications of truth-telling and the doctor-patient relationship • Describe the responsibility of the physician as a healthcare advocate • Recognize unprofessional behavior from professional behavior • Recognize behaviors in self and others that can be categorized using elements of professionalism	1. Just let me be Mr. Ahmad has gangrene in his left lower leg and it is recommended that it should be amputated. Mr. Ahmad is refusing to have the operation even though the decision will in all likelihood lead shortly to his death.	Respect for Autonomy	Respect for Autonomy Beneficence & Non-maleficence
	2. The Ward Round The medical student is invited to join on the ward round by the senior doctor. Prior to the ward round commencing the senior doctor tells the medical student that the patient was given the wrong chemotherapy dose yesterday, that the patient is fine and that they are not telling the patient as he will just get stressed.	Unprofessionalism	Respect for Autonomy Beneficence & Non-maleficence
	3. The Kidney Donation Sara wishes to donate a kidney to her father who is suffering from a life-threatening kidney disease. Both Sara and her father Ahmad are very close. During routine blood tests, the doctor has discovered that that Ahmad is in fact not Sara's biological father, although Sara can still donate her kidney to him as it is a close enough match.	Truth telling & duty of care	Respect for Autonomy Beneficence & Non-maleficence

Part B: Examples of scenarios used for the Ethics in Islam component

Learning objectives	**Scenario**	**Theme**	**Islamic principles addressed**

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• Discuss the ethical dilemma and the process of Ethical Decision Making • Explain Principles of Medical Ethics in Islam • Describe the responsibility of the physician as a healthcare advocate • Develop effective communication skills	<u>Assisted reproduction</u> A married couple who wish to have a child have come to see the Doctor; however, the 32-year-old wife knows that she is a carrier for Huntington's disease (HD). The couple wish to discuss the possibilities of harvesting the wife's eggs, then having each egg checked for the HD gene and those without the gene fertilized and re implanted. Other scenarios included: • Contraception • Sterilization • Surrogacy • Termination	Beginning of life	The principle of protection of life, maqsad hifdh al nafs The principle of necessity, qa'idat al dharurat, allows waiving normal practices like informed consent to protect life. The principle of intention, qa'idat al yaqeen, requires that all intervention and research must be based on evidence as much as is possible in an emergency The principle of protection of resources, maqsad hifdh al maal The principle of certainty, qa'idat al yagiin, the physician should act on available knowledge and not on doubts or speculation The principle of injury, qa'idat al dharar, requires minimizing harm while maximizing benefits in emergency procedures, protection of privacy and confidentiality
• Discuss the ethical dilemma and the process of Ethical decision making surrounding brain death testing and organ donation • Explain Principles of Islamic Medical Ethics that apply to organ donation • Develop effective communication skills • Discuss the issue of "consent" and how it is applied in this situation	<u>Organ donation</u> Abdul is a 34-year-old Muslim Lebanese man who was involved in a road traffic collision 2 days ago and has suffered a severe head injury. He was admitted, intubated and ventilated, to ICU with fixed and dilated pupils. CT showed a massive intracerebral bleed. He has been declared brain dead following being tested on two separate occasions. You have already spoken to Abdul's wife telling her the results of the test. Rajiv, a Hindu and Indian national with a two-year history of chronic renal disease has been maintained on regular hemodialysis. He is on the waiting list for a suitable kidney donor. You now need to discuss the possibility of organ donation with Aisha, Abdul's wife. Other scenarios included: • Stopping resuscitation • Withdrawing treatment	End of life	

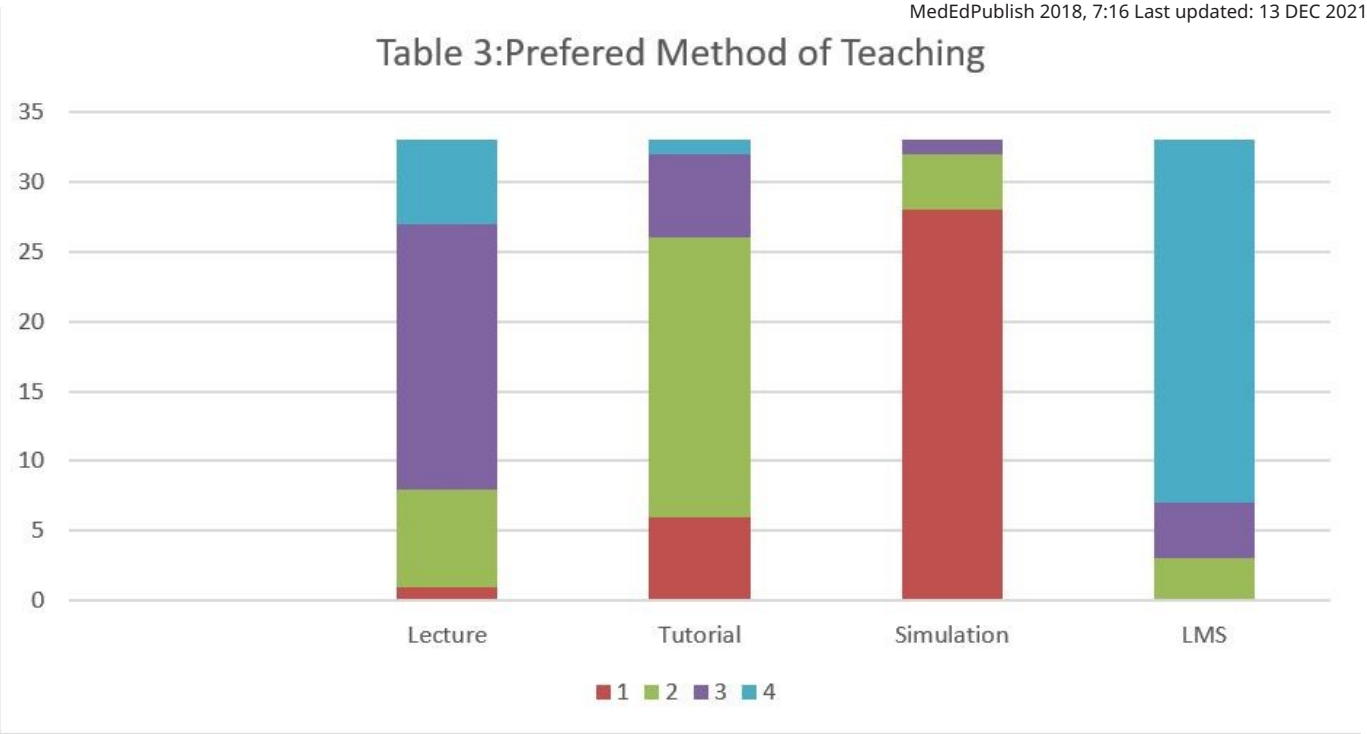

Table 4: Students preferred Method of Teaching				
Teaching styles	Students ranked from 1-4 their preferred teaching style with 1 being their most preferred and 4 their least preferred			
	% who ranked the teachng style as 1	% who ranked the teachng style as 2	% who ranked the teachng style as 3	% who ranked the teachng style as 4
Lecture	3	21	58	18
Tutorial	18	61	18	3
Simulation	85	12	3	0
LMS	0	9	12	79
Total	106 *	103	90	100

* Two participants ranked the Simulation as equal first with another teaching style

Declaration of Interest

The author has declared that there are no conflicts of interest.

Open Peer Review

Migrated Content

Version 1

Reviewer Report 27 April 2019

https://doi.org/10.21956/mep.19486.r28775

Ken Masters
Sultan Qaboos University

This review has been migrated. The reviewer awarded 2 stars out of 5

An interesting paper dealing with teaching medical ethics, a topic that is frequently ignored, or consigned to obscure “also taught” areas of the curriculum.The authors have succinctly laid out both the literature and setting context. It also appears that the course has been well-run. The major problems with the paper lie in the data gathering and presentation:• The evaluation is really limited and does not give much useful data.• Table 3 is not a table, but a chart, and should be Figure 1. In fact, it appears to be merely a graphical representation of the raw data given in Table 4. It would be better to leave out the chart entirely, and have Table 4 give raw data and percentages in brackets/• The Result are very sparse indeed, often with only percentages given, and no form of statistical tests, Standard Deviations, etc.• Preferred method of teaching: "lecture, tutorial, simulation and from the material shared on the learning management system." The LMS is not a method of teaching, and can be used to deliver lectures, tutorials and simulations. I can see that the researchers would like to know about the impact of using online learning systems, but it really should not have been done in this way.So, while the authors have demonstrated a thorough knowledge of the topic and its complexities, and appear to have run a good course, they have done themselves a disservice by gathering very little data, and then have not presented the data very well. This is unfortunately, as I believe that a more comprehensive evaluation and careful presentation could have made a much stronger paper.

Competing Interests: No conflicts of interest were disclosed.

Reviewer Report 01 June 2018

https://doi.org/10.21956/mep.19486.r28774

Sateesh Babu Arja
Avalon University School of Medicine

This review has been migrated. The reviewer awarded 3 stars out of 5

It is interesting to see a research paper on simulation-based learning in teaching medical ethics. I agree with the authors that we need to have Medical Ethics in the early part of the curriculum and Ethics should be taught and integrated vertically and horizontally across the courses. The other thing that I liked about this paper is the detailed description of the importance of teaching Medical Ethics in the undergraduate curriculum and regulatory body requirements. I also liked the description of various teaching methods in Medical Ethics including lectures, tutorials, case-based discussions, and simulation-based learning.I am very much interested in simulation-based learning as I am currently using simulation-based learning in clinical skills teaching. Simulation-based learning works for many programs even though the literature and evidence for simulation-based learning are inconclusive. The advantages of simulation-based learning are it can be conducted in the safe and controlled environment and it can be very useful in the first few years of the curriculum where there is no availability for patient exposure to students. But the disadvantages are it requires a lot of infrastructure and resources and it may not be feasible in the low-resource settings. I agree with Professor Gibbs comment as this study looks like level 1 Kirkpatrick evaluation. At least authors could have looked at the measurements of learning (students' performance on assessments) and behavior of the students. And also the numbers in the table 4 look to me as absolute numbers rather than percentages. This paper is useful for faculty members involved in teaching Medical Ethics and clinical skills.

Competing Interests: No conflicts of interest were disclosed.

Reviewer Report 04 May 2018

https://doi.org/10.21956/mep.19486.r28773

İdil KINA

This review has been migrated. The reviewer awarded 3 stars out of 5

“Simulation: Teaching Medical Ethics to First Year Medical Students within the United Arab Emirates” is a

cohort study that aims to evaluate the impact of simulations as a method to teach medical ethics. The study consisted of application of different scenarios between medical students and standardized patients, debriefings and the cohort.In the paper method of study was presented detailedly in a text format. The method of debrief was specified, an additional visual would've been helpful for the reader to understand the whole timeline of the study. I felt like the reader can get a bit lost since the method includes several debriefs, simulations and questionnaires. The study also includes scenarios that address ethics in the context of Islam. I think this was an appropriate approach considering the belief system might have an important impact on patients' decision making. However in the conclusion the authors express that it is important to "that a better understanding of different cultural values and ethics are explored to help prepare the physician of the future" , I believe this study should've included scenarios from belief systems other than Islam in order to achieve this.I also think the structured sessions should've also focus on the universality of ethics. It would've been interesting to have clinical scenarios where the ethical solutions contradict cultural or religious norms and to see how students react.This is a nice paper to read if you are a medical student interested in using simulations as a method to teach social issues and ethics in medicine. The study sets a simple example on how can simulations can be implemented to teach ethics and how the students react to this method. It is a good place to start.

Competing Interests: No conflicts of interest were disclosed.

Reviewer Report 18 January 2018

https://doi.org/10.21956/mep.19486.r28776

Trevor Gibbs
AMEE

This review has been migrated. The reviewer awarded 2 stars out of 5

I feel that this paper attempts to address some important issues in the teaching and learning of medical ethics and focusses appropriately on active and integrated learning within junior medical students. I don't agree with the authors that this is a unique approach, I am sure that there are many examples of similar activities if researched. I was equally not surprised at the results, given that this was classical Level 1 Kirkpatrick evaluation- hence I am not sure that this papers adds very much to present day understanding of the ethics teaching - unless I think that the authors are considering following up these students as they progress through clinical work. It would have been interesting to hear about any conflicts that the students raised- it appeared that they were working towards a "right answer" and how these conflicts were resolved within the individual and within the group, and how the answers might change with different race, religion and country..

Competing Interests: No conflicts of interest were disclosed.