

Title Evaluation of the Integration of Social Accountability Values into Medical Education using a Problem-Based Learning Curriculum

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Abstract

Background

Medical schools have the obligation to direct their education toward addressing the priority health concerns of the societies that they serve. The purpose of this study was to evaluate the integration of the concepts and values of social accountability into the case scenarios that are used in a problem-based learning (PBL) curriculum at a medical school in the United Arab Emirates (UAE).

Methods

A validated “social accountability inventory for PBL” was used for examining 70 case scenarios in a problem-based learning (PBL) medical curriculum.

Results

The findings of the study indicate that the majority of the case scenarios integrated the social accountability values in addressing the following: the major health problems or social health concerns of the UAE (73%), the social determinants of health (70%), the contextual integration of medical professionalism (87%), the evolving roles of doctors in the health system (79%), the healthcare referral system based on the case complexity (73%), the involvement of different stakeholders in healthcare (87%) and the psychosocial issues rather than only the disease-oriented issues (80%). However, the case scenarios were deficient in integrating other social accountability values that related to the importance of a multidisciplinary approach to patient management (29%), issues regarding the management of the health system (49%), the values of health promotion/prevention (59%), consideration of the underserved, disadvantaged or vulnerable populations in the society (62%), the socioeconomic statuses of patients (54%), ethnicity (54%) and cost-effectiveness (65%). There was variability in integrating the social accountability values in case scenarios across different units which are based on organ system.

Conclusion

Medical educators can use this valuable data to calibrate their curriculum content, especially when using a problem-based learning curriculum to integrate the values of social accountability such as relevance, quality, equity and cost-effectiveness to train the future generation of healthcare providers to be ready to address the ever-changing and diverse needs of the societies.

Background

According to the World Health Organization, the concept of social accountability obligates medical schools to direct their activities to addressing the priority health needs of the societies, and the stakeholders and partners for health, including the public, should jointly define those needs and concerns [1]. Medical schools worldwide educate and train their workforces to serve the needs of the societies and to shape the healthcare systems. Therefore, in terms of their plans, actions and impacts, medical schools

are accountable to the societies that they serve. The demand for these schools to demonstrate social accountability is on the rise from legislation, regulation, and accreditation bodies [2]. Medical schools are expected to document both social accountability plans in their organization functions and social accountability actions in their education and research to exhibit the positive impacts these have on their health systems, communities, regions and nations [3].

Several tools, grids and frameworks have been developed to measure the integration of social accountability concepts into medical education at institutional levels [4, 5]. In addition, a number of medical schools in the Middle-Eastern region and worldwide have used these tools to assess compliance with the concepts of social accountability [6–8]. However, although these instruments have helped to clarify this concept and its definition, therefore reducing ambiguities and promoting consistency in the application of social accountability in medical education, none of these instruments has helped in assessing the needs of curricula to support the medical schools in becoming socially accountable [9]. Like the rest of the world, the medical schools in the United Arab Emirates (UAE) need to adapt and make necessary changes and adjustments in their education, research and service programs according to the societal health needs to demonstrate accountability. To become more responsive to their societies and national healthcare requirements, individual medical schools need to assess how effectively they integrate social accountability into their teaching curricula. This will help them to update and address the changing priorities of their community healthcare needs, expose students to learning opportunities that address the societal health needs and, finally, produce healthcare professionals who have the knowledge and skills to handle the priority health needs of the communities they intend to serve.

The UAE, with a population of 9.2 million, has a unique mix of expatriates (80%) and native Emiratis (20%) [10]. With the constant influx in recent two decades of a population from other countries, there has been a considerable change in the lifestyles and healthcare needs of those in the UAE. Currently, the most common causes of death and disability are non-communicable diseases (77%) such as cardiovascular diseases, road injuries, stroke, diabetes, chronic kidney diseases, chronic obstructive pulmonary diseases, depressive disorders, drug use disorders, pancreatic cancer and self-harm. Communicable diseases such as tuberculosis, pneumonia, hepatitis and infections account for approximately 12% of deaths and disabilities [11, 12]. To serve the healthcare needs of its population, the UAE has seven medical schools that graduate thousands of healthcare professionals annually, including doctors, nurses and other healthcare workers [4].

The aim of this study, then, was to evaluate the integration of the concepts and value of social accountability into the case scenarios used in a problem-based learning (PBL) curriculum in medicine.

Methods

The study was performed after obtaining the necessary institutional ethics approval (REC-19-01-26-01).

Study Setting

The College of Medicine at the University of Sharjah (COMUOS) in the UAE has a medical education program that extends over six years and adopts a student centred problem-based learning curriculum. The medical curriculum is further divided into three phases: phase I—foundation year, phase II—pre-clerkship phase (years 1, 2 and 3) and phase III—clerkship phase (years 4 and 5). In phase II, the curriculum is themed around organ systems and structured into nine units such as cardiovascular, musculoskeletal, neurosciences, respiratory, genitourinary etc. Problem-based learning (PBL) uses written case scenarios with simulated and real patients' problems to constitute the main learning and teaching strategy in this phase. A total of 70 case scenarios distributed across all the units (courses) are used for problem-based learning.

Design

Evaluation of the social accountability concepts integration into case scenarios used in the problem-based learning curriculum was performed using a validated inventory “social accountability inventory for PBL”[13]. This inventory has 17 close-ended statements distributed under the following themes (social accountability values): relevance (10 questions), equity (5 questions), cost-effectiveness (1 questions) and quality (1 question) See appendix. The 10 questions examining relevance and the questions examining quality and cost-effectiveness collected responses on a 4-point-Likert scale in numerical values: A (agree), B (disagree), C (neither agree nor disagree), and D (not applicable). The five questions of equity can be responded as yes, no or not applicable. Online data collection form was made using Survey Monkey® software. [<https://www.esurveyspro.com/Survey.aspx?id=26158e7a-6ff9-4c9a-a9e8-f0452432d608>]. Each PBL case scenario was evaluated by two assessors for the integration of social accountability concepts using the aforesaid inventory. In case of disagreement a third assessor was consulted and finally the decisions were made by consensus.

Results

A total of 70 case scenarios used in the problem-based learning curriculum were evaluated for the integration of SA concepts. Table 1 shows the presence of these social accountability values in the case scenarios. In the relevance domain, the current study showed that the majority of case scenarios at COMUOS (73%, 51 of 70) had addressed the major health problems or social health concerns of the country[14, 15], 70% of the case scenarios (49 of 70) had triggers addressing one or more social determinants of health. The analysis of the results also reflected contextual integration of medical professionalism in 87% cases (61 of 70), evolving roles of doctors in the health system in 55 of the 70 cases scenarios (79%) and healthcare referral system based on the case complexity in 73% (51 of 70) cases. The 61 of the 70 cases scenarios (87%) reflected the involvement of different stakeholders in healthcare and 56 case scenarios (80%) integrated the relevant psychosocial issues rather than only disease-oriented issues in their content.

Table 1
Social accountability values present in the PBL case scenario

Q	Domain	Item	Agree (%) n=70	Disagree (%) n=70	Neither Agree or Disagree (%) n=70	Not applicable (%) n=70
1	Relevance	The problem case scenario is relevant to social health concerns.	51 (72.86%)	16 (22.86%)	3 (4.29%)	0 (0%)
2		The problem case scenario addresses one or more of the social determinants of health.	49 (70.00%)	19 (27.14%)	2 (2.86%)	0 (0%)
3		The problem case scenario points out the relevant values of health promotion and preventive measures.	41 (58.57%)	21 (30.00%)	2 (2.86%)	6 (8.57%)
4		The problem case scenario reflects the involvement of different stakeholders in health care.	61 (87.14%)	9 (12.86%)	0 (0%)	0 (0%)
5		The problem case scenario integrates the relevant psychosocial issues, rather than only disease-oriented issues.	56 (80.00%)	13 (18.57%)	1 (1.43%)	0 (0%)
6		The problem case scenario reflects the relevant health system management issues.	34 (48.57%)	27 (38.57%)	9 (12.86%)	0 (0%)
7		The problem case scenario includes the relevant elements of medical professionalism	61 (87.14%)	9 (12.86%)	0 (0%)	0 (0%)
8		The problem case scenario includes triggers embedded in the (primary to tertiary) health care referral system based on the case complexity.	51 (72.86%)	18 (25.71%)	0 (0%)	1 (1.43%)
9		The problem case scenario includes triggers linked to the evolving roles of doctors in the health system	55 (78.57%)	12 (17.14%)	3 (4.29%)	0 (0%)

Q	Domain	Item	Agree (%) n=70	Disagree (%) n=70	Neither Agree or Disagree (%) n=70	Not applicable (%) n=70
10		The problem case scenario includes triggers highlighting the importance of a multidisciplinary approach to patient management	20 (28.57%)	47 (67.14%)	3 (4.29%)	0%
11	Equity	The problem case scenario addresses the ethnicity of the patient.	16 (22.86%)	54 (77.14%)	0 (0%)	0 (0%)
12		The problem case scenario addresses the socioeconomic aspects of the patient.	33 (47.14%)	37 (52.86%)	0 (0%)	(0%)
13		The problem case scenario addresses the patient's age group	69 (98.57%)	1 (1.43%)	02 (0%)	(0%))
14		The problem case scenario addresses the patient's gender	70 (100%)	0 (0%)	0 (0%)	(0%)
15		The problem case scenario includes under-served, disadvantaged, or vulnerable populations in society	8 (11.43%)	62 (88.57%)	0 (0%)	(0%)
16	Cost-effectiveness	The problem case scenario includes triggers for discussing treatment costs and providing alternatives	5 (7.14%)	64 (91.43%)	1 (1.43%)	(0%)
17	Quality	The problem case scenario includes the concept of 'person-centered healthcare'.	54 (77.14%)	10 (14.29)	4 (5.71)	2% (2.86%)

Out of 70 case scenarios only 20 cases (29%) discussed the importance of multidisciplinary approach to patient management, 34 cases (49%) reflected health system management issues in their content and 41 cases (59%) applied the values of health promotion/prevention measures in their management plan. Similarly, only 8 of the 70 case scenarios (12%) had considerations of the underserved, disadvantaged or vulnerable populations in society, 33 cases (47%) addressed the socioeconomic status of the patients and 16 case scenarios (23%) had addressed the patient ethnicity in its content. Further, majority of the

case scenarios (91%, 64 of 70) failed to trigger discussion about treatment cost and providing alternatives with their patients.

Discussion

In this study, we looked at the integration of social accountability values such as relevance, quality, equity and cost-effectiveness into the case scenarios (total 70) used in the problem-based learning medical curriculum. Overall, we observed that significant amounts of these social accountability values were embedded through suitable triggers in the case scenarios. However, their consistencies across different units remained were varying. In reference to the relevance, we observed the majority of the case scenarios (73%) addressed the major health problems or social health concerns of the country. It is vital for the medical school to understand and frame its education, training and research directed towards the major health concerns of the community, region, and/or nation they have a mandate to serve [1, 3]. Similarly, 70% of the case scenarios had triggers addressing one or more social determinants of health. Improving our understanding social determinants of health such as environments in which people are born, grow, live, work and age, factors such as socioeconomic status, education, employment, and access to health care is critical to provide targeted healthcare and in shaping people's health[16–18]

A majority of the PBL case scenarios (87%) reflected contextual integration of medical professionalism, evolving roles of doctors in health system (79%) and reflected healthcare referral system based on the case complexity (73%). We believe these traits are critical in providing good clinical care, maintaining good medical practice, relationships with patients, working with colleagues, probity, and health [19]. The medical profession now recognizes the importance of early introduction of professionalism into medical curriculum to provide learning opportunities, gaining experience and reflecting on the values of medical professionalism for better patient care [20]. In the same note, the role of doctor has undergone quantum shifts from the person who knew medicine to a manager, social worker, teacher, advocate, and leader to name a few. The doctors in the twenty-first century should possess the necessary skills for working in teams, utilizing resources effectively, providing patient-centered care, advocating for health care systems, and increasing accessibility for patients. Therefore, knowledge and understanding of the social determinants of health will provide the information and framework to understand the patient's need and societal factors that are intertwined with health outcomes [21] .

Likewise, the bulk of the cases scenarios (87%) were able to reflect the involvement of different stakeholders in healthcare and integrate the relevant psychosocial issues rather than only disease-oriented issues in their content. Again, it is important for the socially accountable medical schools to recognize and involve the various stakeholders of health including the patient, healthcare provider, insurance provider, family, community, society, government, and non-governmental organizations. This will not only improve the quality of healthcare but will provide tangible contributions to the sustainability of the training programs [22].

Highlighting the importance of multidisciplinary approach to patient management, we observed only 29% case scenarios had successfully integrated it; similarly, around 49% cases had integrated health system management issues into their content. The case scenarios (59%) also lacked in triggers applying values of health promotion/prevention measures in patient management. We feel the lack of triggers in initiating learning outcomes particularly in the above mentioned domains need improvements. It is well known that multidisciplinary care model that brings together different providers such as physicians, nurses, social workers, and other specialists not only improve health care outcomes but also reduce potential for errors [23]. Given the need for doctors to actively collaborate with multiple professionals, it becomes a key necessity to introduce such learning modules early in the medical curriculum. Similarly, the medical students should be educated about the structure of the healthcare system they want to be a part, early in their curriculum. This will help them to integrate into the nation's healthcare system and improve their understanding of healthcare legislations, concerns and issues within the healthcare system [24]. Medical schools applying the social accountability values should integrate health promotion and disease prevention approach into their curriculum in training their workforce to recognize the health problems for which preventive efforts can result in appropriate utilization of health resources and improvements in health status [25]. The case scenarios used in problem-based learning curriculum should ensure that these social accountability issues are intelligently introduced to the learner to build open their knowledge, understanding and practice early in their academic years.

In the equity domain of social accountability, the case scenarios used in our problem-based learning curriculum showed complete integration in addressing patient's gender and age group. In comparison, the case scenarios failed to include underserved, disadvantaged or vulnerable populations in society (88%), patient ethnicity (77%) and address socioeconomic status of the patients in 54% cases. It is known that socially accountable medical schools focus on the priority health concerns in their own contexts. Collaborating with the local communities and government medical schools have a focused on medically underserved people or those who do not have access to healthcare services, including remote and rural populations, indigenous or minority groups, or ethically and linguistically diverse populations and the urban poor [26].

Similarly, majority of the case scenarios (91%) needs improvement in triggering discussion about treatment cost and providing alternatives with their patients. While most medical curriculum are good in training the students to discuss the diagnosis, treatment and drug side effects with their patients, they lack in sharing financial issues with them. Empowering the patient in their own healthcare decision-making especially the financial issues such as treatment cost and available treatment alternatives has become an important responsibility of the physician [27]. In order to inculcate these traits, students should be engaged in learning how to disclose the financial consequences and suitable alternatives with their patients. The case scenarios can introduces sufficient triggers in these topics to initiate discussion and opinions as learning objectives.

When we analyzed the applications of social accountability values in cases scenarios across different units such as cardiovascular, musculoskeletal, neurosciences, renal and reductive etc. we observed some

degree of variability. These variations might be due to the nature of the unit content. For example, the cases used in endocrine and hematology systems are essential part of learning human physiology and pathology, but lacked in reflecting the application of social accountability values. However, we believe carefully revising them it is possible to infuse triggers to initiate learning of social accountability values without compromising their core learning objectives.

Conclusions

In conclusion, this study is first of its kind that has analyzed the integration of social accountability values in the case scenarios used in a medical problem-based learning curriculum. The social accountability values addressing the major health problems or social health concerns of UAE, the social determinants of health, the contextual integration of medical professionalism, the evolving roles of doctors in the health system, the healthcare referral system based on the case complexity, the involvement of different stakeholders in healthcare and the psychosocial issues rather than only disease-oriented issues were integrated in the majority of the case scenarios. On the other hand, the social accountability values related to the importance of multidisciplinary approach to patient management, the health system management issues, the values of health promotion/prevention, consideration to the underserved, disadvantaged or vulnerable populations in society, the socioeconomic status of patients, ethnicity, and cost-effectiveness were addressed less often in majority of case scenarios. Medical educators can use this valuable data to calibrate their curriculum content especially those using problem-based learning curriculum to integrate the values of social accountability such as relevance, quality, equity and cost-effectiveness to train the future generation of healthcare providers that will be ready to serve the ever changing and diverse needs of the very society to which they belong.

Declarations

Ethics approval and consent to participate

The study was performed after obtaining the necessary institutional ethics approval (REC-19-01-26-01).

Consent for publication

Not applicable

Availability of data and materials

The original data can be acquired from the corresponding author upon reasonable request through email.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

All authors have contributed equally and have read and approved the final manuscript.

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