

REVIEW ARTICLE

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Medical Schools' Efforts to Build Social Accountability Indicators and Determinants in the Eastern Mediterranean Region: A Scoping Review

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ABSTRACT

This review summarizes medical schools' efforts to develop social accountability (SA) determinants and indicators in the Eastern Mediterranean Region (EMR). The review used the Arksey and O'Malley framework to examine the literature on indicators and/or determinants of SA published in 1995–2021. As part of a broader project on SA, a first screening of various databases yielded 162 articles on SA in the region, and further filtering identified six articles specifically addressing the determinants/indicators of SA in two countries in the region. The Global Consensus for Social Accountability of Medical Schools (GCSA) was used to analyze the quality and content of the articles, which were assigned scores according to specific criteria of how comprehensively the medical schools addressed the 10 areas of the GCSA. The six identified publications describe the development of SA determinants and indicators in a country-specific context, but, while they make a positive contribution to measuring SA, they do not satisfactorily address some matters, including measuring impacts on local populations, the social determinants of health, primary health care approaches, policies for recruiting students, and indicating the quality of graduates in relation to community needs. This review makes recommendations on how to address these shortcomings. While SA is gaining momentum in the EMR, only a handful of countries have shared their experiences. Researchers are making efforts to turn SA guidelines into standards, but more focus and elaboration are required.

Keywords: *social accountability; social accountability indicators; medical education; medical schools; Eastern Mediterranean Region*

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BACKGROUND

As defined by the World Health Organization (WHO) (1), the objective of social accountability (SA) in the medical education system is to meet the demands of society, solve its health problems, and train a responsible workforce with a systemic perspective that provides the highest-quality services while focusing on communities (2). In the past few decades, the concept of SA has caught the attention of those in health professions education and has consequently achieved several milestones in terms of its elaboration. For example, the Conceptualization, Production, and Usability (CPU) model guides the SA actions of a medical school from the beginning (identification of societal needs) to the desired end (meeting the identified needs) within a sequence of the three domains of conceptualization, production, and utilization (2-3). Important guidelines have also been developed, such as the Global Consensus for Social Accountability of Medical Schools (GCSA).

The GCSA occupies a unique place in the SA movement, as it is the product of a global eight-month effort by 130 individuals and organizations with responsibility for health education, professional regulation, and policy-making (4), which culminated in a three-day facilitated consensus-development conference. The GCSA is intended to address the 21st century's challenges to improving the quality, equity, relevance, and effectiveness of health care delivery; reducing the mismatch to societal priorities; redefining the roles of health professionals; and providing evidence of impacts on people's health (p. 1) (4). The GCSA is built on 10 themes (Box 1).

Box 1. The 10 strategic directions of the Global Consensus for Social Accountability

Area 1: Anticipating society's health needs

Area 2: Partnering with the health system and other stakeholders

Area 3: Adapting to the evolving roles of doctors and other health professionals

Area 4: Fostering outcome-based education

Area 5: Creating a responsive and responsible governance of medical schools

Area 6: Refining the scope of standards for education, research, and service delivery

Area 7: Supporting continuous quality improvement in education, research, and service delivery

Area 8: Establishing mandated mechanisms for accreditation

Area 9: Balancing global principles with context specificity

Area 10: Defining the role of society

Further practical steps for achieving SA in medical institutions depend in part on the ability to develop practical tools for execution and evaluation (2, 5) which requires overcoming the global challenge of measuring SA (6). Thus, there is an urgent need to develop, test, share, and improve determinants and indicators of SA or risk failing to consolidate the existing efforts and creating confusion due to a multiplicity of inputs (2).

Incorporating SA standards into medical schools' accreditation process may be the only means of acknowledging and rewarding their efforts to meet community health needs (3), and several attempts to do so are underway. For instance, the Training for Health Equity Network (THEnet), a learning community of individuals and institutions that share experiences and resources in the diverse context of its member schools to inform the realization of SA, has formulated a framework for evaluation (5).

In this review, we examine publications on SA from the Eastern Mediterranean Region (EMR), where several contributions have been made to this field and where many schools have attempted to measure their compliance with SA concepts (7-12). This research reviews publications on SA determinants and indicators in health professions education with the aim of summarizing and analyzing the comprehensiveness and practicality of these contributions in light of the main guidelines in the literature. The goal is to provide direction for the development of standards and indicators of SA in the EMR and beyond.

MATERIALS AND METHODS

This scoping review followed the five stages proposed by Arksey and O'Malley (13): choosing the research question; identifying relevant studies; making the selection; charting the data; and collating, summarizing, and reporting the results.

Choosing the Research Question

The reviewing team posed the following research question: how are the indicators and/or determinants of SA in medical schools presented in the literature published in the EMR?

Identifying Relevant Studies

The following databases were searched: Scopus, Web of Science, CINAHL, PubMed, and Google Scholar. To be included in the review, articles had to be written in English in the period of 1995–2021. The reference lists and authors' profiles in the retrieved articles were checked for possible sources, and leaders in the field of SA in the region were asked to suggest articles that may have been missed. Duplicates were then removed.

Making the Selection

Only original articles about the SA of medical schools in the EMR were included. Articles in non-English languages and studies conducted in types of schools that fell outside the scope of the study were excluded. The search terms were: social accountability AND Eastern Mediterranean Region AND medical schools AND determinants OR indicators, or social

accountability AND EMRO region AND health profession education OR Eastern Mediterranean country AND determinants OR indicators.

Charting the Data

A data abstraction form was created and independently tested by two reviewers on a random sample of 10 articles before being iteratively revised by the study team. The final form included the following broad headings: study characteristics (e.g., year of publication, country of publication, study design), main outcome, and model used. HEK and MHT read each article independently and extracted the relevant data. Any differences between the resulting abstractions were resolved through discussion with MEA and MW. Because the goal of the scoping review was to synthesize the efforts that have been made to move SA from concepts to usable determinants/indicators, we did not formally assess methodological quality.

Collating, Summarizing and Reporting the Results

The seminal GCSA document was employed to analyze the quality of the articles' content and the comprehensiveness of the determinants and indicators found in them (4). The articles were compared against the 10 areas of the GCSA by HEK and MHT and given a score from (-) to (++++), as described in Box 2.

Box 2. Scoring system for the reviewed articles	
-	Most of the points in the GCSA area are not well covered.
+	Some of the points in the GCSA area are mentioned.
++	Some of the points in the GCSA area are covered but without elaboration or explanation.
+++	Many points in the GCSA area are covered and some information is provided, but no specific details are given.
++++	Most of the points in the GCSA area are covered, and the information can be readily transformed into a measurement tool.

Differences in the initial scoring were reconciled through discussion in a meeting attended by all the authors. The scoring was not a straightforward task, mainly because of the overlap of themes and subthemes in the GCSA and, consequently, in each of the articles reviewed. The review of the international literature enabled the researchers to identify the aspects that were worthy of further elaboration.

RESULTS

A preliminary search yielded 162 articles, with five additional ones discovered by other means. Due to duplication, 65 titles and abstracts were eliminated after screening. Fifty articles were eliminated because they were not from the EMR, did not relate to health professions education, and/or were not written in English. Furthermore, 24 articles were removed because they did not relate to the SA of health professions education, were not accessible, did not address the measurement of SA in health professions education, or were not original articles. Finally, 22 articles were removed because they did not address the indicators and/or determinants of SA (see Figure 1).

The six articles selected for the review originated in only two countries: Iran (5 articles) and Sudan (1 article). One study used the WHO SA grid (14), and another used the CARE model (15). Jalilian et al. (16) used the 10 themes of the GCSA, Pourabbas et al. used the accountable education measurement tool (17), and two studies did not identify the model used (see Table 1) (18-19).

Regarding the 10 areas of the GCSA, Area 1 (Anticipating Society's Health Needs) was relatively well covered in the articles while Area 9 (Balancing Global Principles with Context Specificity) was mostly overlooked (see Table 2). Further analysis revealed the issues that merit elaboration (see Box 3).

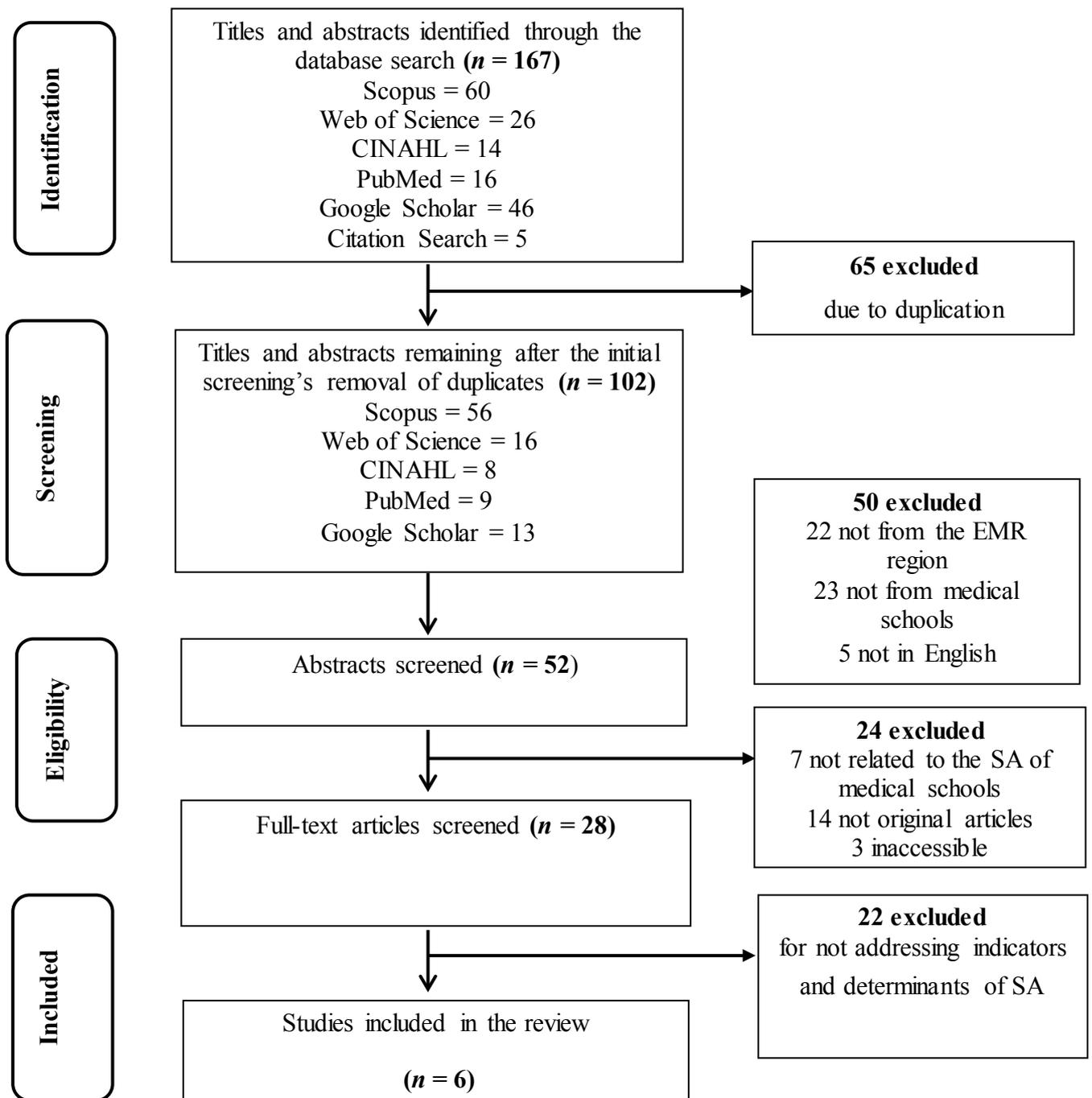


Figure 1: PRISMA flow diagram of the scoping review process.

Table 1: Summary and main features of the articles included in the review

Author(s)	Title	Year	Country	Main outcome	Model
Jalilian Hamed et al. ¹⁶	Developing Social Accountability Indicators at Medical Schools	2014	Iran	After three stages of research, including two Delphi rounds and two focus group sessions, 28 criteria and 95 indicators were created.	GCSA
Abdalla ¹⁴	Suggested New Standards to Measure Social Accountability of Medical Schools in the Accreditation Systems	2014	Sudan	Medical schools' compliance with expected functions differs from country to country and even within the same country.	WHO SA grid & WFME
Emadzadeh et al. ¹⁵	An Investigation on Social Accountability of General Medicine Curriculum	2016	Iran	Clinical activities, advocacy, research, and training should all be covered in the curriculum. Clinical activities (12 items), advocacy (10 items), and scope of research are among the 38 elements for SA that are required in the general medical curriculum (8 items). There were 8 items in the educational section.	CARE
Shieh et al. ¹⁹	Exploration of Social Accountability Indicators in Medical Science Schools in Iran	2020	Iran	The four primary areas of activity (education, research, community/regional cooperation, and health care delivery) were proven with the Delphi method. The indicators, listed by domain, numbered 58.	Not specified (three rounds of the Delphi technique)
Ahmady et al. ¹⁸	Exploring the Practical Themes for Medical Education Social Accountability in Iran	2015	Iran	Eight main themes influence Iran's social and medical accountable education: organization of educational councils; community-based courses; courses developed in the field; educational processes; uniformity of rules and regulations; budgets; educational programs in departments and groups.	Not specified (experts' opinions were obtained during the group discussions of seven expert panels)
Pourabbas et al. ¹⁷	The Status of Accountable Education in the Surgery Department, Tabriz, Iran	2019	Iran	Regarding SA in education, the average performance (mean 38.6%) was moderate. There were no recordings made in the 2 nd and 9 th areas, and the 8 th and 10 th areas' recordings were poor. The averages for Areas 1, 4, 5, 6, and 7 were high.	Account-able education measurement tool

GCSA: Global Consensus for Social Accountability; WFME: World Federation for Medical Education; SA: social accountability; WHO: World Health Organization

Box 3. The main issues that were not adequately covered

1. Impact on the health of the served community
2. Primary health care approach to service delivery
3. Social determinants of health
4. Recruitment/admission policy inspired by equity
5. Quality of graduates in terms of community needs

DISCUSSION

The translation of recommendations and guidelines for SA into indicators is an ongoing challenge, and confusion may arise because of multiple contributions. To avoid this danger, it is necessary to combine efforts through consultation and synergy (2). This review critically examined the important contribution made by scholars in the EMR to describe, summarize, and draw attention to the issues that need closer attention (see Box 3). This section describes the issues' significance to achieving SA and how they are addressed in the reviewed articles.

Impact on Health

Making an impact on the health of the society it serves is an important goal for a medical school that seeks to be socially accountable. Medical schools should advance their focus of evaluation from processes to outcomes and finally to impact (6). According to the gradients in the social obligation scale suggested by Boelen (20), doing so corresponds to a journey from being socially responsive to being socially responsible and ultimately socially accountable.

Community Needs

The reviewed articles well stress the importance of determining and updating community needs and using them to guide research, education, and service delivery, but details of the determinants and indicators are mostly lacking in the educational area. In the articles' discussions of how to make a difference in peoples' health, the issue of the impact on their well-being is lacking, which is a common concern in SA evaluation (5, 21). The evaluation of SA has a gap in measuring impacts on societal health (21), because the literature on this topic is scarce as indicated by a systematic review of SA's impact that could find only one study on its impact on health (22). The reason—as explained in the review—may be the difficulty of establishing a direct link from the effort of medicals schools to changes in health outcomes (22).

Social Determinants of Health

The social determinants of health (SDH) play a large role in the health of communities and individuals (23). They include the conditions under which people are born, live, and work as well as the systems and forces that shape those conditions (24). The GCSA stresses the importance of recognizing the SDH and using them to shape its programs in the domains of education, research, and service delivery (GCSA, Area 1.2). Socially accountable medical schools are supposed to integrate the SDH into their curricula, for example, by emphasizing the important role of education, employment, socioeconomic status, social support networks, access to health care, and the neighborhood and physical environment in improving people's health and quality of life (25). Medical schools should also direct education, research, and service delivery toward addressing the main health problems of the communities they are expected to serve (1), but only a few have done so (21). Thus, any attempt to devise SA determinants or indicators should adopt means or tools to measure these problems. Unfortunately, most of the revised articles offer few details on this aspect.

Fostering Graduates Committed to Primary Health Care

In 1978, WHO proposed primary health care (PHC) as the best approach to achieving “health for all,” (26) and the organization’s 2008 World Health Report confirmed that PHC remains the most suitable approach to respond to the 21st century’s health challenges (27).

The GCSA advocates “fostering graduates committed to Primary Health Care” (p. 6) (4), strengthening PHC centers, and training PHC physicians (4, 28, 29) According to Puschel et al. (29), academic primary care programs in Latin American medical schools are significantly associated with the level of health disparities, indicating that countries with more academic PHC training have a lower level of the health disparities measured by the health inequality index.

PHC has many values in common with those of SA, including a focus on equity, serving the community, involving diverse stakeholders, and ensuring quality. Therefore, it is reasonable to expect that all documents attempting to find the determinants or indicators of SA will address these issues in some detail. Ventres et al. see directing standards toward primary care interventions as one of the main strategies by which medical schools can address the SDH and become socially accountable (21).

A few of the reviewed articles focused on PHC (or offered a reasonable alternative) as a means of providing health care that is equitable, accessible, and of adequate quality to the community. Jalilian et al. describe “continuous and active cooperation of the medical school and the relevant units in primary healthcare” as a means of using resources efficiently (16). Emadzadeh et al. consider PHC to be a required item in the area of education, although this was endorsed by only a quarter of the panel that developed the items (15). Abdalla suggests indicators that include teaching strategies in PHC settings (14).

In our view, PHC should be explicitly prescribed as the means of responding to the health needs of society, with more specific indicators needed on how this is to be achieved and measured.

Recruitment of Students From Underprivileged Populations

In regard to the recruitment of students (and faculty), the GCSA and many other important guidelines stress the importance of adopting a governing policy that serves the purposes of equity and relevance. By designing a policy that favors recruitment from local communities, especially underserved and underprivileged areas and populations (4), a medical school can promote the retention of graduates in those areas and cultivate graduates with an inherent knowledge of local problems. According to Laven and Wilkinson (30), doctors with a rural background are twice as likely to practice in a rural area; this figure increases to 2.5 times among those who underwent their postgraduate practice in a rural setting.

Some of the reviewed articles mention the importance of a clear recruitment policy (14, 31) that pursues justice and neutrality (16) and is based on present and future societal needs (14, 16, 17). The main obstacle to achieving these goals is the lack of a recruitment policy that pays attention to local communities, especially the most vulnerable and underserved (2, 32, 33). Jalilian et al. mention the importance of recruiting from minority groups (16).

Medical schools should always pay great attention to the qualities desired in their graduates. Harden et al. state that medical schools “cannot afford the luxury of ignoring the product” (p. 9) (34). In Area 3, the GCSA describes the desired set of graduates’ competencies, which should be determined by the evolving needs of communities and the active involvement of communities and other stakeholders. This will produce graduates of adequate quantity and quality. In their definition of community-based education, Frank et al. incorporate the requirement that competencies *stem from* the analysis of societal needs (35).

All medical schools are expected to consider priority health problems in the planning of curricula, service delivery, and research. Detailed plan on how to achieve and measure this goal must be incorporated into all the determinants and indicators of medical schools’ SA endeavors. The reviewed articles cover relatively well the need to train graduates with good knowledge of and sensitivity to community needs, but they lack SA determinants and indicators that could help graduates to pursue *specialty careers* that address communities’ most pressing needs.

Limitations

As the selection was restricted to articles in English, relevant publications in other languages may have been missed. The determinants of SA were found to be implemented in studies from two countries only, so more publications from other countries in the region would improve the understanding of the determinants of SA

CONCLUSIONS

The EMR countries are contributing to research on SA indicators and determinants, but more medical schools in the region’s countries should document and share their experiences. This review highlights the areas that merit further elaboration, which center on the contribution that medical schools can make to people’s health and well-being and on the need to measure impacts despite considerable challenges. Doing so requires adhering to the primary values of health system relevance, equity, quality, and cost effectiveness as well as acting as a hub for the collaborative efforts of all the stakeholders, with the community as a major actor and its underserved populations as the main target. This can be achieved by adopting a holistic view of health, focusing on the SDH, and prioritizing PHC. Ultimately, the focus of medical schools should remain on recruiting students from underprivileged populations, which will enable them to promote the retentions of graduates in those areas and to produce graduates with an inherent knowledge of local problems.

REFERENCES

1. Boelen C, Heck J. Defining and measuring social accountability of medical schools. Vol. WHO/HRH/95. 1995.
2. Boelen C, Dharamsi S, Gibbs T. The social accountability of medical schools and its indicators. *Educ Heal*. 2012;25(3):180.
3. Boelen C, Woollard B. Social accountability and accreditation: a new frontier for educational institutions. *Med Educ*. 2009;43(9):887–94.
4. Schools GC for SA of M. Global consensus for social accountability of medical schools. 2010.
5. Larkins SL, Preston R, Matte MC, Lindemann IC, Samson R, Tandino FD, et al. Measuring social accountability in health professional education: development and international pilot testing of an evaluation framework. *Med Teach*. 2013;35(1):32–45.
6. Barber C, Van der Vleuten C, Leppink J, Chahine S. Social Accountability Frameworks and Their Implications for Medical Education and Program Evaluation: A Narrative Review. *Acad Med*. 2020;95(12):1945–54.
7. Elsanousi S, Elsanousi M, Khalafallah O, Habour A. Assessment of the social accountability of the faculty of medicine at University of Gezira, Sudan. *East Mediterr Heal J*. 2016;22(4):258–66.
8. Alrebish SA, Taha MH, Ahmed MH, Abdalla ME. Commitment towards a better future for medical education in Saudi Arabia: the efforts of the college of medicine at Qassim University to become socially accountable. *Med Educ Online* [Internet]. 2020;25(1). Available from: <https://doi.org/10.1080/10872981.2019.1710328>
9. Hosny S, Ghaly M, Boelen C. Is our medical schools socially accountable? The case of Faculty of Medicine, Suez Canal University. *Med Teach*. 2015;37(S1):S47–55.
10. Abdalla ME, Taha MH, Wadi MMS KH. What makes a medical school socially accountable? A qualitative thematic review of the evaluation of social accountability in medical schools in the Eastern Mediterranean Region. *East Mediterr Heal J* [Internet]. 2022;28(5):1–17. Available from: <http://www.emro.who.int/in-press/reviews/what-makes-a-medical-school-socially-accountable-a-qualitative-thematic-review-of-the-evaluation-of-social-accountability-in-medical-schools-in-the-eastern-mediterranean-region.html>
11. Abdalla ME, Dash NR, Shorbagi S, Taha MH. Development and validation of inventory tool to evaluate social accountability principles in case scenarios used in problem-based curriculum (Social accountability inventory for PBL). *Med Educ Online*. 2021;26(1):1847243.
12. Dash NR, Taha MH, Shorbagi S, Abdalla ME. Evaluation of the integration of social accountability values into medical education using a problem-based learning curriculum. *BMC Med Educ*. 2022;22(1):1–7.
13. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol*. 2005;8(1):19–32.
14. Abdalla ME. Suggested new standards to measure social accountability of medical schools in the accreditation systems. *J Case Stud Accred Assess*. 2014;3:1–25.
15. Emadzadeh A, Karimi Moonaghi H, Mousavi Bazzaz M, Karimi S. An investigation on social accountability of general medicine curriculum. *Electron physician*. 2016;8(7):2663–9.
16. Jalilian hamed H, Amini A, Alizadeh M. Developing Social Accountability Indicators at Medical Schools. *Res Dev Med Educ*. 2015;4(1):71–6.
17. Pourabbas A, Amini A, Fallah F, Asgharijafarabadi M. The status of accountable education in the Surgery Department, Tabriz, Iran. *Res Dev Med Educ*. 2019 Jun;8(1):31–7.
18. Ahmady S, Lakeh MA. Exploring the practical themes for medical education social accountability Iran. *Gastroenterol Hepatol from Bed to Bench*. 2015;8(1):28–32.
19. Shieh H, Ghanavati S, Nabeiei P, Amini M. Exploration of Social Accountability Indicators in Medical Science Schools in Iran. *Interdiscip J Virtual Learn Med Sci*. 2016;7(1):1–8.
20. Boelen C. Why should social accountability be a benchmark for excellence in medical education? *Educ Médica*. 2016;17(3):101–5.
21. Ventres W, Boelen C, Haq C. Time for action: key considerations for implementing social accountability in the education of health professionals. *Adv Heal Sci Educ*. 2018;23(4):853–62.
22. Reeve C, Woolley T, Ross SJ, Mohammadi L, Halili S “Ben,” Cristobal F, et al. The impact of socially-accountable health professional education: A systematic review of the literature. *Med Teach*. 2017 Jan;39(1):67–73.

23. Braveman P, Egerter S, Williams DR. The social determinants of health: Coming of age. *Annu Rev Public Health*. 2011;32:381–98.
24. Sharma M, Pinto AD, Kumagai AK. Teaching the Social Determinants of Health: A Path to Equity or a Road to Nowhere? *Acad Med*. 2018;93(1):25–30.
25. Doobay-Persaud A, Adler MD, Bartell TR, Sheneman NE, Martinez MD, Mangold KA, et al. Teaching the social determinants of health in undergraduate medical education: a scoping review. *J Gen Intern Med*. 2019;34(5):720–30.
26. World Health Organization. Declaration of Alma-Ata. 1978.
27. World Health Organization. The world health report 2008: primary health care now more than ever. 2008.
28. Ahmed MH, Abdalla ME, Taha MH. Why social accountability of medical schools in Sudan can lead to better primary healthcare and excellence in medical education? *J Fam Med Prim Care*. 2020;9(8):3820.
29. Puschel K, Rojas P, Erazo A, Thompson B, Lopez J, Barros J. Social accountability of medical schools and academic primary care training in Latin America: principles but not practice. *Fam Pract*. 2014;31(4):399–408.
30. Laven G, Wilkinson D. Rural doctors and rural backgrounds: how strong is the evidence? A systematic review. *AJR Aust J Rural Heal*. 2003;11:1440–584.
31. Yazdani S, Akbarilakeh M, Abdalla ME, Charles B, Arbabisarjou A, Moonaghi HK. Measuring social accountability of medical universities' education function- design, development, and validation of instrument. *J Evol Med Dent Sci*. 2019;8(26):2110–4.
32. Strasser R. Social accountability and the supply of physicians for remote rural Canada. *Cmaj*. 2015;187(11):791–2.
33. Rourke J. Social accountability: a framework for medical schools to improve the health of the populations they serve. *Acad Med*. 2018;93(8):1120–4.
34. Harden RM, Crosby JR, Davis MH. AMEE Guide No. 14: Outcome-based education: Part 1 - An introduction to outcome-based education. *Med Teach*. 1999;21(1):7–14.
35. Frank JR, Snell LS, Cate O Ten, Holmboe ES, Carraccio C, Swing SR, et al. Competency-based medical education: theory to practice. *Med Teach*. 2010;32(8):638–45.

Table 2: Analysis of the reviewed articles according to the 10 areas of the GCSA*

	Authors/Date	Title	Country	GCSA Area									
				Area 1: Anticipating Society's Health Needs	Area 2: Partnering with the Health System and Other Stakeholders	Area 3: Adapting to the Evolving Roles of Doctors and Other Health Professionals	Area 4: Fostering Outcome-Based Education	Area 5: Creating Responsive and Responsible Governance of the Medical School	Area 6: Refining the Scope of Standards for Education, Research, and Service Delivery	Area 7: Supporting Continuous Quality Improvement in Education, Research, and Service Delivery	Area 8: Establishing Mandated Mechanisms for Accreditation	Area 9: Balancing Global Principles with Context Specificity	Area 10: Defining the Role of Society
1	Jalilian Hamed et al. (2014) ¹⁶	Developing Social Accountability Indicators at Medical Schools	Iran	++++	+++	+++	++++	++++	++++	++++	++++	+++	++++
2	Abdalla (2014) ¹⁴	Suggested New Standards to Measure Social Accountability of Medical Schools in the Accreditation Systems	Sudan	++++	+++	+	+++	++++	++++	++++	++++	++	++++
3	Emadzadeh et al. (2016) ¹⁵	An Investigation on Social Accountability of General Medicine Curriculum	Iran	++	++	+++	++	+	++	+	-	-	+
4	Shieh et al. (2020) ¹⁹	Exploration of Social Accountability Indicators in Medical Science Schools in Iran	Iran	++++	++++	++++	++++	++++	+++	+++	+++	+++	++
5	Ahmady et al. (2015) ¹⁸	Exploring the Practical Themes for Medical Education Social Accountability in Iran	Iran	++++	++++	++++	+++	++++	+++	++	++++	++++	++
6	Pourabbas et al. (2019) ¹⁷	The Status of Accountable Education in the Surgery Department, Tabriz, Iran	Iran	++	+	++	++	+	+	+	+	++	+

