

Challenges for implementing WFME standards for accreditation in health professions education in low and middle-income countries: A scoping review

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Abstract

Objective: The accreditation standards developed by the World Federation of Medical Education (WFME) are acknowledged as regulatory mechanism for quality assurance of medical education programmes. The scoping review was planned to collect all the literature for identification of the barriers affecting the implementation of quality curriculum defined by WFME.

Methods: The literature was searched in electronic databases for relevant peer-reviewed studies over the last ten years. The search terms used were, 'challenges of WFME accreditation', 'barriers to accreditation', 'challenges to accreditation in healthcare system', 'hindrances to WFME accreditation standards', and 'barriers to WFME standards', in PubMed, ERIC, PsycINFO databases, and in Google Scholar for grey literature. After screening and assessing for eligibility, 922 publications were retrieved and only 19 articles were included in study. The QualSyst appraisal tool was used to appraise the quality of studies. Data was synthesized to present the findings.

Results: The themes identified after data synthesis broadly described the barriers to implementation in various domains of WFME standards. The themes were social and political support, process of curriculum development, involvement of students in curricular planning, organizational setup, infrastructure, technical issues/ management of curriculum. The social and political support referred to leadership and governance, a prime barrier to address. Similarly, organizational setup, infrastructure and technical issues should also be looked for apart from students and curriculum.

Conclusion: The scoping review will inform and lay the foundation for more empirical studies on quality improvement in health professional education, particularly in low and middle-income countries.

Keywords: Challenges of accreditation, Barriers to accreditation, WFME standards, Challenges of quality curriculum implementation. (JPMA 71: 966; 2021) DOI: <https://doi.org/10.47391/JPMA.795>

Introduction

Global experts in medical education, under the umbrella of the World Federation of Medical Education (WFME), have developed standards to guide development, evaluate and diagnose strengths and weaknesses of the medical education programme along with stimulating quality improvement.¹ The ultimate goal of the reforms is formation of transformative and interdependent professional educational system for providing equitable healthcare.²

The WFME standards are used as a template to focus on acquiring competencies to serve the local needs in the global context. The educational commission for foreign medical graduates announced that by 2023 all medical graduate programmes should be accredited by an authority meeting the WFME or any other global criteria for accreditation.³ There is a need to identify the challenges to accreditation, particularly in low and middle-income countries (LMICs) to improve the medical education

curriculum which indirectly will have a positive effect on the healthcare system of the country. The current scoping review was planned to identify the barriers affecting the implementation of quality curriculum defined by WFME.

The scoping review was carried out to explore what the barriers and hindrances are that impede the quality curriculum in medical education related to WFME standards, particularly in LMICs.

Many curricular reformers fail just because they fail to identify the barriers that hinder and hamper the process of curriculum reforms. The factors and elements that impede the achievement of standards in nine areas of WFME can help identify the issues and barriers that can hamper the quality of curriculum and pose a threat to accreditation by the health regulatory authority of the country.

Research design and methodology

Ethical approval for the review was not necessary because it did not involve patients and interventions. The studies included in the review were traced from different databases.

The scoping review search strategy was applied because it

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is useful when there is no extensive research for the topic under consideration. It maps the body of all published and grey literature to answer the research question. There are some common processes of research between scoping and systematic review.⁴

After identifying and scrutinising the problem and forming a review team and research questions, the Arksey O'Malley framework of scoping review was used because it provides all the necessary guidelines for educational research.⁵

The review objective was to map the existing literature on barriers and inhibitors to implementation of WFME standards for curricular reforms in LMICs.

Eligibility Criteria

Relevant studies were identified by using an eligibility criterion made with mutual consensus of the authors. The inclusion and exclusion criteria were developed according to the specific research question. The criteria were modified post-hoc after literature search.

Study designs

The literature pre-screening identified a heterogeneity of study designs, and, therefore, search was not restricted to a particular study design. Quantitative and qualitative studies and survey and evaluation reports answering the research question were included in the review. Only those articles were included that were fully available with no payable access.

A deadline was agreed after which no study was included in the review.

Search Strategy

The reviewers developed the electronic database search strategy by defining the key concepts answering the review question. Later on, the search strategy was peer-reviewed by the librarian of Shifa Tameer-e-Millat University, Islamabad, Pakistan, in compliance with Peer Review of Electronic Search Strategies checklist.⁶

Electronic databases sources, key words and phrases

The databases searched for relevant literature were Education Resources Information center (ERIC), Psychological information database (PsycINFO) and

Table: Eligibility Criteria.

Inclusion criteria	Exclusion criteria
Original research articles	Abstracts only
Records in English language	Conference proceedings
Studies published in last 10 years (2009-2019)	Editorials
Records related to medical and dental education only	Conceptual and position papers
Grey literature and manual search of documents	Book chapters
Systematic reviews	Newspapers
Literature review	Dissertations

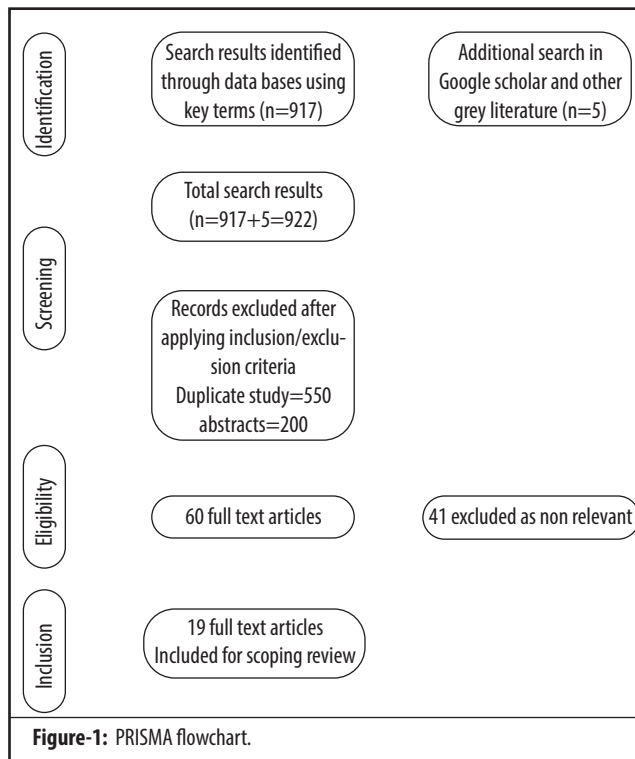


Figure-1: PRISMA flowchart.

PubMed, while Google Scholar was searched for grey literature to look for information yet to be peer-reviewed and avoid missing any relevant article. The key words and phrases used for searching were 'challenges to WFME accreditation', 'barriers to accreditation', 'challenges to accreditation in healthcare system', 'hindrances to WFME accreditation standards', and 'barriers to WFME standards'. Grey literature was also searched among technical reports from governmental agencies, communication with personnel involved in self-evaluation study at Shifa Tameer-e-Millat University and the Rawalpindi Medical University along with hand-searching of the key documents were also taken into account.

Appendix I: Electronic search history at PubMed

Number of articles	Key words and phrases (filters=abstract, past ten years, humans)
#1 6	Challenges to WFME accreditation
#2 874	Barriers to accreditation
#3 5	Implementation of WFME accreditation standard
#4 5077	Barriers to curriculum implementation
#5 1212	Hindrances to evaluation
#6 17	Barriers of accreditation in low and middle income countries
#7 25	Challenges to accreditation in low and middle income countries
#8 60	Challenges to accreditation in health care system
#9 31	#1 OR #7 AND #6
#10 3	#1 AND #5
#11 1	#1 OR #4
#12 7	#2 AND #8

WFME: World Federation of Medical Education.

Appendix II: Studies included in the systematic review.

	Studies included in systematic review	WFME area	Standards	Identified challenges/ inhibitors
1.	Alrebish SA. Barriers to effective feedback in undergraduate medical education?: Case study from Saudi Arabia. <i>Int J Health Sci (Qassim)</i> . 2018; 12(2):31-3	Assessment	1. Feedback 2. Standard setting 3. Evaluation	Lack of effective feedback
2.	Hejri SM, Jalili M. Standard setting in medical education: Fundamental concepts and emerging challenges. <i>Med J Islam Repub Iran</i> . 2014;28(1).			Lack of standard setting to inform policy and practice.
3.	Khan JS, Biggs JSG, Tabasum S, Iqbal M. Assessment in Medical Education in Pakistan?: Evaluating Evaluation. 2012;28:88-94.			Poor quality assessment
4.	Shakil-ur-Rehman S, Ahmad S, Yasmin R. Study of curriculum of Doctor of Physical therapy programme based on World Federation of Medical Education standards. <i>PJMS</i> .2018;34(6): 1582-86	Students	1. Perception of learning environment 2. Academic and social 3.self-perception 4.Student support services. 5. Student role in administration and curriculum 6. Active learning techniques.	Lack of participation in programme management, evaluation, mission statement, programme designing, curriculum committee, student's activities and organization, as per WFME standards. Lack of provision of opportunities for development of active learning among students.
5.	Bavdekar S, Save S, Pillai A, Kasbe AM. DREEM Study: Students' Perceptions of Learning Environment in a Medical College in Mumbai, India. <i>JAPI</i> . 2019; 67,;50-55.	Educational environment	1. Conducive learning 2. Presence of various cultures 3. Trust and mutual understanding 4. Learner friendly environment	Strong disciplinary environment. Rigid environment. Lack of research culture
6.	Ali SK, Baig LA. Problems and issues in implementing innovative curriculum in the developing countries: The Pakistani experience. <i>BMC Med Educ</i> . 2012;12(1).	Educational Strategy		Lack of awareness for implementing community oriented medical curriculum
7.	Shah N, Tabassum A, Shah N. A needs assessment for faculty development at two medical colleges of Dow university of Health Sciences, Karachi. <i>Pakistan J Med Sci</i> . 2018;34(6):1386-91.	Faculty	1. Multi-tasking 2. Competence of instructors 3. Involvement in organizational decision making 4. Faculty development opportunities.	Lack of pedagogical skills and lack of opportunity to improve these skills.
8.	Anwar MI, Humayun A. Faculty development - Looking through different lenses. <i>Fac Dev Pak Armed Forces Med J [Internet]</i> . 2015;65(1):110-14.			Lack of opportunities for instructional, professional and organizational development.

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Appendix II: (continued from previous page)

	Studies included in systematic review	WFME area	Standards	Identified challenges/ inhibitors
9.	Akhlaq A, McKinstry B, Muhammad K Bin, Sheikh A. Barriers and facilitators to health information exchange in low- and middle-income country settings: A systematic review. Health Policy Plan. 2016;31(9):1310-25.	Technology and research	1. Documented technology plan 2. Appropriate tools and media 3. Reliability of technology 4. Resources and information technology	Inefficient management information system(MIS), Lack of technical competence. Poor online system of evaluation and assessment. Technology barrier for digital technology in healthcare system. Lack of knowledge about the contextual factors associated with rapid response service by the policy makers. Lack of interest and attitude towards medical research among the students and faculty. Lack of development and promotion of research culture among the health care institutions.
10.	Anwar F, Shamim A. Barriers in Adoption of Health Information Technology in Developing Societies. Int J Adv Comput Sci Appl. 2013;2(8):40-5.			
11.	Aurore N, Valens M, Lune NJ, Nyssen M. Assessment of health informatics competencies in undergraduate training of healthcare professionals in Rawanda. Rawanda J.2016;3(10):36-40.			
12.	Faiza R, Nisa Q. Perception, attitudes and barriers in undergraduate medical students toward medical research at rehman medical college, peshawar, pakistan. KMJ. 2017;9(3):146-9.			
13.	Latif MZ, Wajid G. Reforming medical education in Pakistan through strengthening departments of medical education. Pakistan J Med Sci. 2018;34(6):1439-44.	Medical education department	development of medical education department	Lak of medical education department and qualified medical educationists.
14.	Almansour S. The challenges of international collaboration: Perspectives from princess Nourah Bint Abdulrahman University. Cogent Educ. 2015;2(1):1-13.	Leadership	Create partnerships Influence people management Achieving internal/external standards and goals Procuring resources for optimal institutional functioning Allocate resources	Lack of international collaboration in disease control and management. Lack of formulation of policies and management systems Poor allocation of resources for optimal functioning of institution.
15.	Ghiasipour M, Mosadeghrad AM, Arab M, Jaafari-pooyan E. Leadership challenges in health care organizations. Med J Islam Repub Iran 2017;31(96).			
16.	Bhat D, Pushpalatha K, Kulkarni P. Study of faculty viewpoints on challenges and factors influencing curriculum development/revision. JCDR.2017;11(10):1-4.	Curriculum	Development of relevant Mission and Objectives 2. Curriculum design 3. Length of program 4. Implementation guidelines 5. Review of instructional material	Low quality integration and curriculum
17.	Bhat D, Pushpalatha K, Kulkarni P. Study of faculty viewpoints on challenges and factors influencing curriculum development/revision. JCDR.2017;11(10):1-4.			To investigate the barriers to integrate behavioural science curriculum.
18.	To investigate the barriers to integrate behavioural science curriculum.	All standards		Leadership, resources, management, technology and manpower, all are some of the biggest challenges to meet for.

Appendix III: Inter-rater reliability in assessing the quality of study by QualSys.

KEY: N= No agreement. Y = Agreement. Grading the article quality H = High > 80%, Good = 71-79%, Sufficient = 50-70%, Borderline/limited = <50%.

Rater	Study design	1	2	3	4	5	6	7	8	9	10	11	12	13	14	T Score	%	Aggrement	Q
AR	Quantitative Cross-sectional Survey	2	1	2	NA	NA	NA	NA	2	2	1	0	NA	2	2	14/18	78		
MIA		2	1	2	NA	NA	NA	NA	2	2	1	0	NA	2	2	14/18	78		
AR	Cross-sectional Survey	2	2	2	1	NA	NA	NA	1	2	2	1	0	2	2	17/22	77	✓	G
MIA		2	2	2	1	NA	NA	NA	1	2	2	1	0	2	2	17/22	77		
AR	Cross sectional Survey	2	2	2	1	NA	NA	0	2	2	1	1	1	2	2	20/24	83	Y	H
MIA		2	2	2	2	NA	NA	0	2	1	2	2	0	2	2	20/24	83	Y	
AR	Quantitative Cross sectional survey	2	1	2	NA	NA	NA	NA	2	2	1	0	NA	2	2	14/18	78	Y	G
MIA		2	1	2	NA	NA	NA	NA	2	2	1	0	NA	1	2	13/18	72	Y	
AR	Quantitative-survey	2	2	2	1	NA	NA	NA	1	2	2	1	0	2	2	17/22	77	Y	G
MIA		2	2	2	1	NA	NA	NA	1	2	2	1	0	2	2	17/22	77		
AR	Mixed Method Qualitative-part	2	2	2	0	2	2	2	1	1	0					14/20	70	Y	S
MIA		2	2	2	0	1	2	2	1	2	0					14/20	70	Y	S
AR	Mix Method Quantitative part	2	2	2	1	NA	NA	NA	1	2	2	1	0	2	2	17/22	77	N	G
MIA		2	2	2	1	NA	NA	NA	1	2	2	0	0	2	1	15/22	70	N	S
AR	Systematic re-view	2	2	2	NA	2	2	2	1	0						15/18	83	N	H
MIA		2	2	2	NA	2	2	2	2	0						16/18	90	N	
AR	Cross sectional survey	2	2	2	1	NA	NA	0	2	2	1	1	1	2	2	20/24	83	Y	H
MIA		2	2	2	2	NA	NA	0	2	1	2	2	0	2	2	20/24	83	Y	
AR	Literature Re-view	2	1	2	2	NA	NA	0	NA	2	1					10/16	63	N	S
MIA		2	0	2	2	NA	NA	0	NA	2	1					9/16	56	N	S
AR	Realist re-view	2	2	2	0	2	2	2	2	2	1					17/20	85	N	H
MIA		2	2	2	0	2	2	2	0	2	1					15/20	75	N	G
AR	Literature Review	2	1	2	2	NA	NA	0	NA	1	1					9/16	56	Y	S
MIA		2	1	2	2	NA	NA	0	NA	2	1					10/16	60	Y	S
AR	Literature Review	2	1	2	1	NA	NA	0	NA	1	1					8/16	50	Y	S
MIA		2	1	2	2	NA	NA	0	NA	1	1					9/16	56	Y	S
AR	Mixed Method Qualitative-part	2	2	2	0	2	2	2	1	1	0					14/20	70	Y	S
MIA		2	2	2	0	1	2	2	1	2	0					14/20	70	Y	S
AR	Mix Method Quantitative part	2	2	2	1	NA	NA	NA	1	2	2	1	0	2	2	17/22	77	Y	G
MIA		2	2	2	2	NA	NA	NA	1	2	2	0	0	2	2	17/22	77	Y	
AR	Cross sectional survey	2	1	2	NA	NA	NA	NA	1	2	1	0	NA	2	2	13/18	72	Y	G
MIA		2	1	2	NA	NA	NA	NA	1	2	1	0	NA	2	2	13/18	72		

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Appendix III: (continued from previous page)

Rater	Study design	1	2	3	4	5	6	7	8	9	10	11	12	13	14	T Score	%	Aggrement	Q
AR	Descriptive cross-sectional study	2	2	2	NA	NA	NA	NA	1	2	1	0	NA	2	2	14/18	78	Y	G
MIA		2	1	2	NA	NA	NA	NA	1	2	1	0	NA	2	2	13/18	72	Y	
AR	Quantitative cross-sectional survey	2	1	2	NA	NA	NA	NA	2	2	1	0	NA	2	2	14/18	78	N	G
MIA		2	2	2	NA	NA	NA	NA	1	2	2	0	NA	2	2	15/18	85	N	H
AR	Systematic re-view	2	2	2	2	2	2	2	0	2	0					16/20	80	Y	H
MIA		2	2	2	1	2	2	2	1	2	1					17/20	85	Y	
AR	Qualitative Focus group	2	2	2	0	2	2	2	0	2	0					14/20	70	Y	S
MIA		2	2	2	0	2	2	2	1	2	0					15/20	75	Y	G
AR	Qualitative exploratory study	2	2	2	NA	2	2	2	NA	2	0					14/16	88	N	H
MIA		2	2	2	NA	2	2	2	0	2	0					14/18	78	N	G

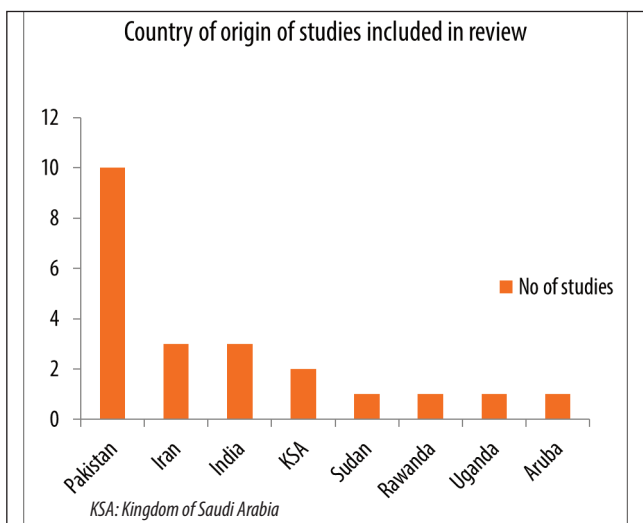


Figure-2: Country of origin of the studies.

We employed Boolean operators by joining of multiple keywords as in 'Challenges to accreditation' OR 'Barriers to implementation of curriculum' etc. (Appendix I). All the included literature was imported in Mendeley citation management software, where duplicate citations were removed.

Study Selection

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart reports the results of the number of articles identified, screened and finally selected after applying the inclusion and exclusion criteria for review.⁷

One researcher identified 917 records in the electronic

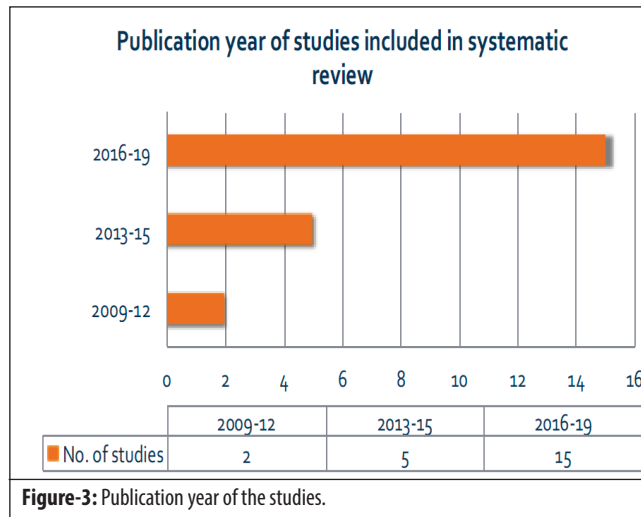


Figure-3: Publication year of the studies.

databases by using the keywords -- or combinations of keywords – and 5 records were identified through grey literature.

Duplicates were removed in the screening phase after which 19 full-text articles remained. The eligibility of selected articles was carried out by using the validated QualSys checklist⁸ to assess the quality of quantitative studies and qualitative studies. The QualSys contains a 14-item criteria for quantitative studies, and 10-item criteria for qualitative studies. Each item in the study was scored on a three-point scale (0=NA, 1=Partial present, 2= Present), making maximum score 28 for the quantitative (14x2) and 20(10x2) for the qualitative studies. The final score attained by the study was derived by dividing the total score attained by either 28 or 20 or as applicable. The final score of >80% was chosen as high, 71–79% as good,

50–70% as sufficient, and < 50% as limited quality.⁴ Studies with more than 50% were included in the review. A total of 19 articles score >50% were included in the scoping review. (Appendix-II). The bias was controlled by calculating inter-rater agreement using Cohen's Kappa⁹ (0.682; considered a good agreement) (Appendix III; Figure 1)

A number of studies from different LMICs were included (Figure 2). Although Saudi Arabia and India are not counted among LMICs, the data extracted from the studies conducted in those countries identified the barriers they share with LMICs.

Publication Year

The barriers and inhibitors to implementation of WFME standards became the popular research topic from 2016 to 2018 in LMICs on account of problems of accreditation. The studies in the past ten years were selected.

Outcome Measures

The main aim of the systematic review was to identify the economic, cultural, organisational and technical barriers and inhibitors irrespective of whether these were operating at the regional, national or international levels affecting the implementation of quality curriculum defined by WFME.

Screening

The results of literature search were assessed by two rounds of screening based on the inclusion-exclusion criteria of the review.

Initially, the screening was carried out by the reviewers independently by applying the inclusion-exclusion criteria to all the citations. It included screening of the titles and abstracts of the studies. All those records that partially fulfilled the inclusion criteria were also kept at this level. when needed, a third reviewer was taken onboard to resolve the difference in opinion of the two reviewers.

In the second round of screening, full text article review was done. Full text articles representing the best fit of the research question were selected for inclusion in the review process. Discrepancies were resolved by consensus or by a third reviewer.

Data extraction

The data extraction was preceded by a calibration exercise to pilot test and use the results to refine the data extraction form. The data extracted comprised full reference, study design, objectives, target population, outcome measures and study results.

Assessment of risk of bias

Two independent reviewers were involved in each phase of the review. Risk of bias assessment for each study was done by checking the author affiliation, study population, type of questions asked in questionnaire/interviews and reviews.

Analysis/synthesis of data

The data was analysed descriptively owing to different study designs, study population, barriers and inhibitors mentioned in the included studies. The same features in each study included in review were summarised. The studies were grouped according to study design, population and outcome measure. The different patterns across the included studies were identified by tabulating the results by study design, risk of bias, or results and any other additional information.

Results

The reviewers thoroughly read the articles to perform a thematic analysis of the data.⁵ Concepts were identified by open coding and the categories and their related sub-categories were decided by axial coding to give a precise explanation to generate themes and sub-themes.

The themes identified broadly described the barriers to implementation in various domains of WFME standards. These included:

1. Social and political support: This theme deals with the WFME areas addressing the mission and outcome of programme, governance, leadership, evidence-based decisions and institutional autonomy.
2. Process of curriculum development: This broad theme narrates the WFME standards influencing the curriculum model, educational outcome, assessment and linkage with healthcare system.
3. Involvement of students in curricular planning: This theme describes the barrier to WFME standard related to involvement of students in curriculum planning.
4. Organizational setup: The theme relates to academic staff and faculty.
5. Infrastructure: The barrier offered by lack of purpose-built building, playground, common rooms, telecommunication, funds, and sustainable cost.
6. Technical issues/ management of curriculum: Barrier to system design issues, lack of timely reporting, feedback and data analysis tools, issues related to educational environment.

Discussion

The accreditation standards are used as regulatory mechanisms to ensure the quality of medical education, which, in turn, lead to quality healthcare. The trend for quality assurance and accreditation of medical schools is growing worldwide.¹⁰ WFME standards are structured under nine areas with 35 sub-areas, at two levels: 'basic standards' or minimum requirements; and relatively advanced standards called 'quality standards'. Basic standards are mandatory while quality standards are optional. The barriers to implementation of quality curriculum conforming to WFME standards in LMICs are discussed under the relevant categories.

Lack of social and political Support

Every institution is founded on its own set of principles and values. The literature review has identified that adapting to an international educational framework does not pose any threat to institution's vision, mission, goals and objectives and a societal impression. Most institutions already had clearly spelled out vision and mission and only needed minor changes to preserve their identity.¹¹

The long-term maintenance of change is difficult because of change in leadership or there is a shift of priorities.¹¹ Changes in managerial staff and staff at leadership position can result in creating a gap between the top management and the academic staff and can pose another barrier.¹² Government agencies and bureaucracy also have their influence through imposition of certain regulations, like admission policy, faculty promotion and the type of curriculum.¹³ Political support backs the financial support required for hiring more human resource to facilitate overburdened staff and for improving the infrastructure, commodities and governance.¹¹

Process of curriculum development

The barriers to development of curriculum affect WFME standards dealing with educational programme and assessment. WFME standards mandated early clinical exposure, horizontal and vertical integration of curriculum and integration of behavioural sciences in the curriculum.¹⁴ Providing early clinical exposure require time and availability of the clinical faculty. This warrants allocation of infrastructure of early clinical exposure for first and second years in a teaching hospital.¹⁵

The second barrier identified was faculty apprehension on account of compromising their status as subject specialist in a system-based integrated curriculum. This threat to basic sciences teachers acted as a barrier to implement and adopt integration at its fullest. Also the pedagogical content knowledge, instructional strategy adopted by

faculty and curriculum, which was not relevant to the developmental level of learner, acted as the challenge to integrated curriculum. The subjects had inherent differences as how well they could be integrated with other specialties compromised the process of integration.¹⁶

WFME basic standard emphasises the vertical integration of behavioural and social sciences. The impedance to integration of behavioural sciences curriculum is due to lack of faculty available for behavioural and social sciences for teaching and lack of post-graduate training in behavioural sciences in underdeveloped countries.¹⁷

The standards for assessment mandated reliability, validity, standard setting, and scrutiny by external examiners of the process of assessment. The standard setting requires content experts, logistics and data management resources.¹⁸ Reliability and validity are dependent on many factors, including post-hoc analysis, standard setting and faculty training in formulating assessment.¹⁹ Assessment experts are scarce and a lot of institutions do not have a proper examination departments. Scrutiny by external examiners of assessment is time- and resource-intensive.²⁰ A lot of centres are not geared for these pre- and post-exam analysis and can pose a major threat to implementation of these standards.²⁰

Students as important stakeholders

The WFME standards state that the process of student selection should comply with the mission and targeted outcome of the institution. Medical and dental college admission test is conducted by national agencies where the test relies on cognitive ability only. There is a vast number of educational boards in Pakistan, each having its own criteria for entry test.²⁰ Multiple mini-interview is a useful tool to select students in accordance with the philosophy of curriculum, but regulatory authority has banned this important selection tool.²¹ The rule for transfer of students from other programmes is also defined by the regulatory authority, and the parent institution has no stake in it.²⁰

WFME standards also advocate due stake of students in curriculum, planning and implementation, mission and vision and management of curriculum, but unfortunately student bodies are not involved in any of these.²² Curriculum planning is not as rigorously performed in many underdeveloped countries, as it should be. Improvement in learning is predicted when students are involved in various committees and provide feedback and opinion which, in turn, indirectly affect curricular development by directing the admission policy, curricular content and provision of student selected components.²³

Organisational setup

The organisational setup of many institutions poses a threat to implementation of quality curriculum mentioned in WFME standard related to academic staff and faculty. There is a dearth of qualified basic science faculty members which indirectly affects curriculum implementation and delivery. The rules and regulation of Pakistan Medical and Dental Council (PMDC) allowing clinical science degree holders to hold faculty position even in basic sciences did a great harm to the teaching of basic sciences.²⁴

Basic science teachers feel threatened with little institutional support and time constraints, which hinder their personal development plans.¹⁷ The significant hindering contributors are lack of training for curriculum development and almost 87% faculty expressed concern in a study conducted in India that addition of new courses through integration affected the basic course they had to teach.²⁵

Majority of medical schools do not have optimal faculty development programmes which is a difficult task and requires a lot of political commitment, supportive leadership, resource allocation and recognition of excellence in teaching.²⁶ Mushrooming of medical schools in many countries in the last few years have compounded the problem, and qualified well-trained faculty is becoming scarce.

Infrastructure

Standards for educational resources refer to infrastructure, information technology (IT), research culture, and international collaboration. The resource-constrained countries lack major resources and are allocating very little funds for further development.

The health regulatory body in Pakistan has mandated the clinical training resources according to the number of seats the college has for medical students. A few medical colleges do not possess a hospital with the specified number of beds. Hospital facilities are inadequate with high faculty-student ratio. Many institutions have inadequate learning facilities and unsatisfactory educational environment. Owing to increased cost of healthcare and pressure for free treatment, medical students are left with less patient exposure than required for proper learning.¹⁹

The problem is enhanced by inadequate IT services. The barriers to implementation of IT component can be infrastructure, cost and time, national policies toward health information system, social and cultural, educational, organisational and ethical barriers.²⁷ Also, there is no adequate infrastructure, such as wireless communication

channels, internet and skilled professional human resource for inter-organisational and intra-organisational communications.

Also, healthcare users are reluctant to adopt new technology and stick to conventional approach and routine practice. Adjustment with new technological environment causes initial decrease of productivity, which further limits the adaptation of new health technologies. There is no health informatics education in the undergraduate medical curriculum.²⁸

The WFME standards insist on the promotion of research culture. Most of the research is questionnaire or survey-based, and the students do not show interest in research because of overwhelming curricular content and examination phobia. Most of the curricular time is spent on delivering lectures on how to conduct research rather than hands-on activities for research methodology.²⁹

Practice of evidence-based medicine, although generally lauded, is not yet completely accepted as the standard on which patient care should be based.³⁰

The health regulatory body in Pakistan ensures that every medical college has functional department of medical education, but it does not provide the framework regarding regulations, policy guidelines and technical support for roles and responsibilities of the department of medical education. In most medical colleges of Pakistan, there is no full-time medical educationist. This is due to lack of trained medical educationists in the country.³¹ Many medical schools have un-qualified staff working in medical education departments.

Most colleges have no collaboration with other health institutes. The common barriers to national and international collaboration are language barriers, faculty apprehension to international partnerships, cultural and ethical issues, and difficulty in reaching a consensus on partnership agreements.³²

Management of curriculum

The WFME standard for programme evaluation clearly states that there should be a proper mechanism for programme evaluation and monitoring, feedback system and a system for evaluating the graduate performance to measure the outcome of a programme, and it also necessitates the involvement of all the stakeholders in programme evaluation. But mostly the evaluation system is not in place. This is due to lack of knowledge, commitment, inadequate policies, strategies and an inefficient management system about evaluations.³³ The formation of evaluation tool in the local context is another challenge that requires efficient and trained personnel and infrastructure.

The barriers to evaluation can be human and contextual factors. The interpersonal skill of evaluators, lack of context and programme knowledge and technical competence is a human factor. The process of evaluation is influenced by trust on the programme evaluator, threat of negative results and a prior negative experience.³⁴

Contextual factors identified in the studies were gaining access to correct data and lack of justifiable and context-specific criteria for evaluation. The contextual factors also include hierarchical structures, political structures, mandate and decision, organisational culture and level of implementation of programme, turnover of staff and accountability.³⁵

The WFME basic standard about analysis of performance of cohorts of students and graduates in relation to mission and intended educational outcomes is difficult to achieve on account of difficulty in data collection from advisory boards, recruiters, employees and graduate surveys.³⁶

The standard for governance and administration encompasses the role of leadership, academic administration, stakeholders and healthcare sector. Evaluation of academic leadership is difficult because of potential backlash because of giving negative feedback. There is no perfect instrument for assessing academic leadership.³⁷

Currently, the healthcare sector lacks trained physician leaders as they do not demonstrate competency in leadership and management skills mandatory for healthcare system.³² Also, the continuous monitoring via self-evaluation and peer appraisal is a time-consuming and laborious job.³⁸ Interaction with government involves bureaucratically administrative boundaries, varying laws and regulations, different information systems and databases.¹³ All these are very crucial barriers to governance and administration standards in health education.

Healthy educational environment

Change involves time, effort and overcoming challenges. Every institution has its own values defined by staff, skills and styles intertwined with system, structure and strategies and they are reluctant to change. Also, change in any one segment will have its impact on other segments.³⁹ Introduction of a new standard influences the cultural values, beliefs and norms in individuals, groups, departments and institutions.⁴⁰ Change in curriculum and its renewal intensifies the academic work and most organisations are not very keen on it. Lack of a feedback loop between students and the institution to relate its mission and outcomes to subsequent stages of education

or practice is recognised as a dilemma rather than a barrier.⁴¹

If all the challenges are categorised with respect to its contribution towards curricular reforms needed for WFME accreditation, it will be clear that problems are similar across LMICs. For example, faculty resistance to change is one of the main issues regarding curricular reforms in Pakistan²⁶ as seen in other parts of the world, like India,²⁵ Rwanda²⁸ and Uganda.³⁵ Similarly, financial constraints and lack of digital technology system in healthcare is another common challenge. The barriers to accreditation owing to lack of research are common in Pakistan,²⁹ Sudan³⁰ and Iran.³⁸

The scoping review has highlighted leadership role as the most important challenge to accreditation in Pakistan,²⁶ Saudi Arabia,³² Iran,³⁸ Sudan³⁰ and South Africa.³⁷ LMICs across the board need a good leadership to combat all the challenges to accreditation and quality curriculum for a better healthcare system.

Conclusion

The scoping review will provide a guideline to the curriculum planners, policy-makers and government agencies for developing standards in the local context to achieve global objectives. The challenge identified against every WFME standard should be sought out for a smooth implementation of WFME standards for accreditation, thus saving the future of medical and dental graduates.

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