



WFME Standards for Educational Programmes: Tutors' Perceptions in Pakistan

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ABSTRACT

Introduction: Medical education has seen enormous transformation worldwide in recent decades. There have been concerns that doctors from South East Asia (SEA) are not adequately trained to meet healthcare challenges of the day. This study was designed to find the status of 'Educational Programmes' in public medical schools in Pakistan compared to World Federation for Medical Education (WFME) basic standards using tutors' perspectives. **Method:** This was a non-interventional, questionnaire-based research. Questionnaires were sent to 326 tutors from 19 of a total of 23 public medical colleges in Pakistan. The response rate was 54%. **Results:** We found the medical education system to be compliant with WFME Basic Standards in four subareas of Area 2- Educational Programmes. These were 'Scientific Foundation', 'Role of Basic Biomedical Sciences', 'Behavioural and Social Sciences and Medical Ethics' and 'Role of Clinical Sciences and Skills'. The system was found partially compliant with WFME minimum standards in two subareas of Area 2, namely, 'Curriculum Models & Instructional Methods' and 'Curriculum Structure, Composition and Duration' but non-compliant in two subareas of Area 2, namely, 'Programme Management' and 'Linkage with medical practice and Health System'. **Conclusions:** The study provides a level of understanding of the standards of medical education in Pakistan on a national level. Studies with potential of digging deeper, probably backed with better resources than ours will be required to have a comprehensive understanding of the medical education system in Pakistan.

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Introduction

Best-evidence medical education needs to be implemented and practiced worldwide in order to improve global health provision by improving education of the health providers. While researchers are keenly exploring various fronts in medical education, more so in the developed world with abundant resources and research funding, not much is known about the culture of medical education in a developing country like Pakistan.

Pakistan is a developing country, more than three times the size of England, with a population of more than 176 Million and an annual growth rate of 2%, (England has a population of > 60Million and a growth rate of 0.3%);¹ and only 68 doctors per 10⁵ populations.² At the time of study we found a total of 52 registered medical colleges³ in four provinces of Pakistan, 23 of which were public, responsible for producing the major bulk of medical workforce in Pakistan while 29 in private sector were known to be catering only a very affluent minority. With the exception of few prominent private institutions, most medical colleges seem to be in need of widespread reforms; few having already started the process. Although a number of studies have been done in Pakistan in the field of medical education there is paucity of evidence on whether (and how much) the system has moved away from the very traditional methods of teaching and the outdated curriculum introduced under British rule more than half a century ago.

Overall, whatever research is available is narrow in terms of research areas addressed and patchy in geography and hence while it shows some good work somewhere it also diverts attention from the wider picture, which is much less optimistic. These studies at too local level have been 'missing the forest for the trees'! A wider scale analysis is much needed.

Method

Ethical Approval

Ethical approval for our study was obtained from University of Dundee Research Ethics Committee (UREC) in November 2009.

Study design

Non-interventional descriptive study

Study Population

At the time of study, we found that there were 23 medical colleges in the public sector of Pakistan. Their websites were accessed to get lists of the faculty. Only 19 sites had this information. The 2163 names mentioned in the lists from these 19 medical colleges formed the study population. The sample size was calculated using free online software called 'Sample Size Calculator' from 'Creative Research Systems', (<http://www.surveysystem.com/sscalc.htm>) with the following assumptions.

Population	=2163
Expected frequency of correct answer	=50%
Margin of Error	=5%
Power of Study	=80%
Calculated Sample Size	=326

From the list of faculty of each of the 19 medical colleges, 18 names were generated using free online software called 'List Randomizer' provided by 'Random.Org' (<http://www.random.org/lists/>) providing the desired sample of 326 tutors. These 326 faculties were sent letters of participation (Participants' Information Letters, PIL) with questionnaires. A local return address on stamped envelopes was provided to facilitate quick return. Both the questionnaire and PIL contained the contact details of the researcher.

Consent & Confidentiality

The return of questionnaire was taken as implied/ tacit consent; this fact was clearly mentioned right in the beginning of the questionnaire. Proper confidentiality was maintained. Responses were all meant to be anonymous and no personal data was collected.

Questionnaire for Data Collection

This was a questionnaire-based research focussing on 'Educational Programmes' in medical education system in Pakistan. There were 30 questions with structured response formats, composed with a view to find tutors' perceptions of various aspects of their educational programmes and using these perceptions for mapping compliance with basic standards of the 8 criteria of Area 2 (Educational Programmes) of WFME Global Standards. To make provision for a variety of responses, a variety of answer formats were attempted. Some of these were 'Multi-option variable' responses and some allowed 'Single-option variable' type of responses. Many questions allowed the 'other' option to accommodate a non-structured answer by respondent. The average time taken to fill the questionnaire was 8–10 minutes.

Data Collection & Analysis:

A total of 186 completed questionnaires were received between December 2009 and March 2010, giving a response rate of 54.1%. Simple

descriptive analyses of data were done using Microsoft Excel 2007.

Results

Criterion A: Curriculum models and instructional methods

Basic standard: The medical school must define the curriculum models and instructional methods employed (discipline-, system-, problem-based, etc.) on the basis of sound learning principles.

One hundred and eight (58.4% of 185) tutors agreed they were provided instructions regarding teaching methods, 76 (41.1%) said they were not. A combination of methods was deployed. Although 43% tutors said they were not aware of various curricular models, 46% indicated a divergence from discipline based curriculum in their institution and 40% mentioned a combination of traditional and problem based curriculum [Table-1].

Table 1: Faculties' perception of usage of various curricular models in Medical Institutions in Pakistan

Discipline Based Vs System Based		Community Based Vs Hospital Based		PBL Vs Traditional	
Discipline Based	20% (36)	Community Based	2% (4)	Problem Based	1% (2)
System Based	17% (31)	Hospital Based	92% (166)	Traditional	48% (84)
Combination	29% (54)	Combination	4% (7)	Combination	40% (69)
Do Not Know	34% (63)	Do Not Know	2% (3)	Do Not Know	11% (19)
Total	100% (184)		100% (180)		100% (174)

Criterion B: Scientific foundation

Basic standard: The medical school must teach the principles of scientific and evidence-based medicine, and analytical and critical thinking throughout the curriculum.

One hundred and twenty-eight (69%) of the 186 faculty participants agreed on curriculum's ability to promote scientific medicine, 106 (57%) thought that curriculum has components to encourage and induce analytical and critical thinking while 91 (49%) of the participants said curriculum had components to promote evidence-based medicine [Figure-1].

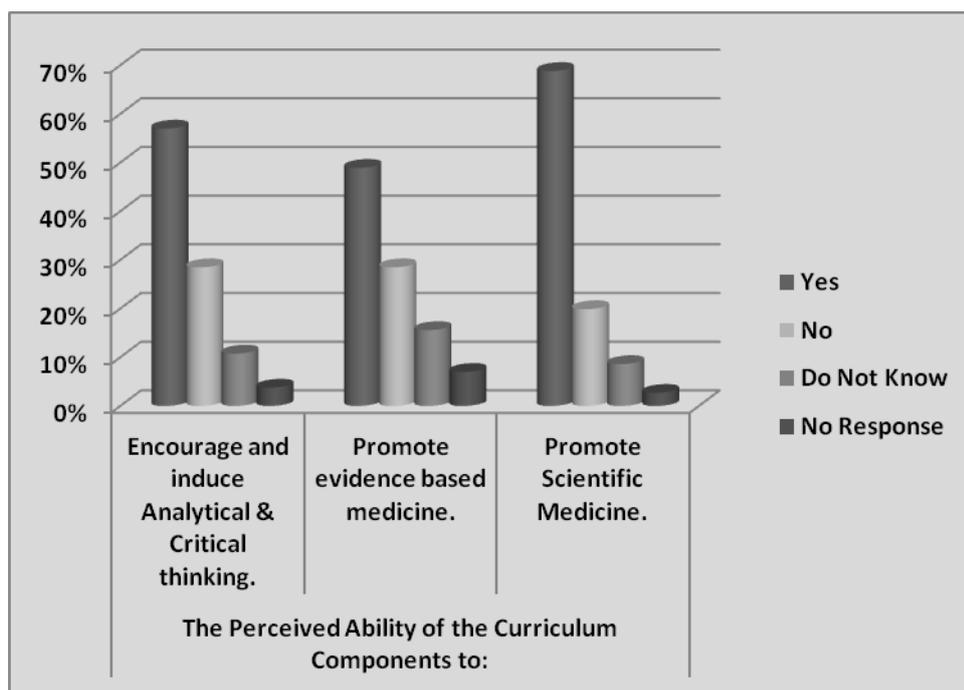


Figure 1: Perceived ability of the curriculum in promoting analytical & critical thinking & scientific & evidence-based medicine (n=186)

Various approaches to achieve these are listed below: [Table-2]

Table 2: List of Various Methods Perceived To Be Used For Promoting Scientific & Critical Thinking & Evidence Based Medicine - In Descending Order Of Perceived Usage

Case presentation meetings.
Reinforcing the concept, that medical knowledge is a dynamic field.
Problem based sessions to enhance critical thinking.
Facilitating self directed and life-long learning.
Teaching basics of research.
Teaching biostatistics.
Requirement to actively participate in research before being awarded MBBS degree.
A culture of encouraging regular updates in management protocols.
Journal club meetings.
Teaching them how to build management protocols according to EBM.
Teaching basics of audit.

Criterion C: Role of Basic Sciences

Basic standard: The medical school must identify and incorporate in the curriculum the

contributions of basic biomedical sciences to create understanding of the scientific knowledge,

concepts and methods fundamental to acquiring and applying clinical science.

One hundred and eighty-one (97.3%) of 186 respondents agreed that basic sciences are part of

the curriculum. However, only a small proportion of respondents agreed that the taught basic sciences reflected health needs of society.

Criterion D: Role of behavioural and social sciences and medical ethics

Basic standard: The medical school must identify and incorporate in the curriculum the contributions of the behavioural sciences, the social sciences and medical ethics that provide

the knowledge, concepts, methods, skills and attitudes necessary for effective communication and clinical decision-making.

Of 186 respondents, 90% and 92% thought that Behavioural Sciences and Medical Jurisprudence were part of curriculum, 70% said Social Sciences & 66% agreed Medical Ethics were a part of curriculum [Table- 3].

Table 3: Tutors' perception of inclusion of various subjects in the Curriculum-I (n=186)

	Behavioural Sciences	Social Sciences	Medical Ethics	Medical Jurisprudence
Yes	168 (90%)	131 (70%)	123 (66%)	172 (92%)
No	13 (7%)	40 (22%)	38 (20%)	5 (3%)
Do Not Know	3 (2%)	13 (7%)	23 (12%)	7 (4%)
No Response	2 (1%)	2 (1%)	2 (1%)	2 (1%)
Total	186 (100%)	186 (100%)	186 (100%)	186 (100%)

Tutors' perception about the factors contributing to students' learning of communication skills and clinical decision-making is shown in Figure 2.

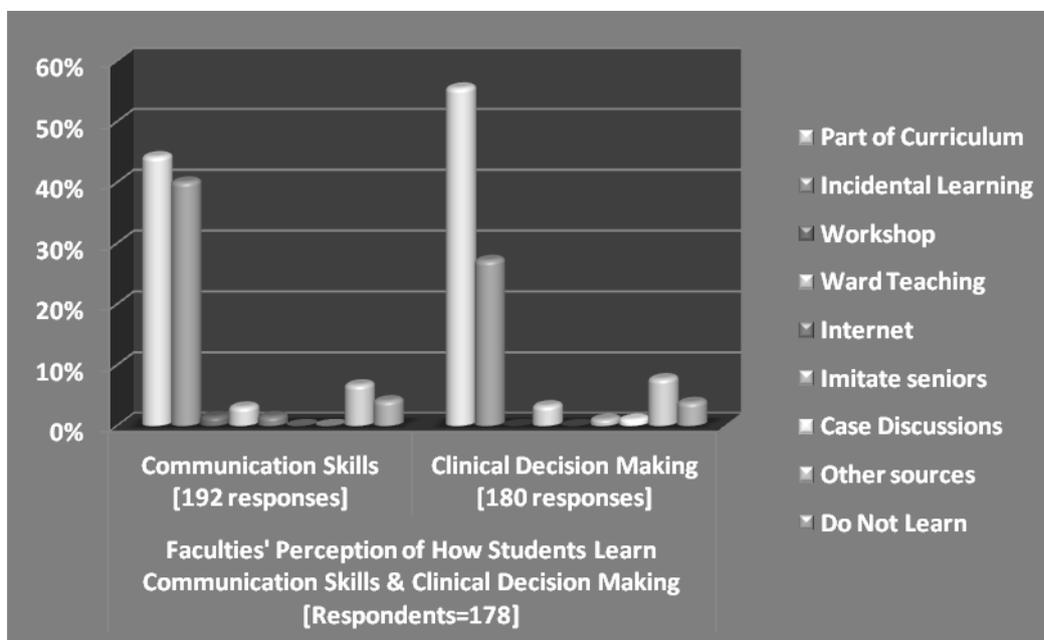


Figure 2: Faculties' perception of how students learn communication skills and clinical decision-making

Criterion E: Role of clinical sciences and skills

Basic standard: The medical school must ensure that students acquire knowledge of the clinical sciences and skills (including communication skills) necessary to assume clinical responsibility upon graduation.

Of the 184 respondents, 124 (68%) expressed satisfaction over the adequacy of the curriculum in conferring knowledge and skills for the future role of medical students [Figure-3 & 4].

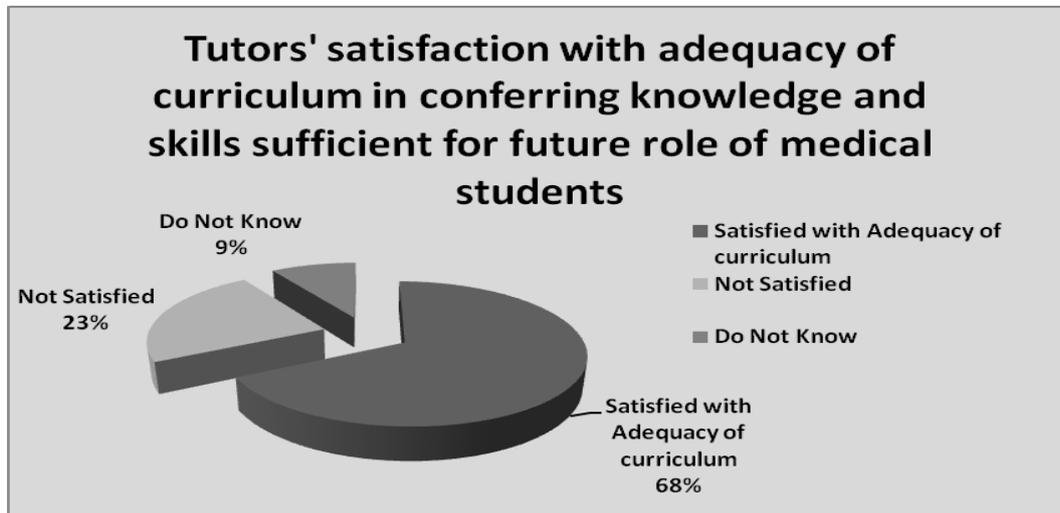


Figure 3: Tutors' satisfaction about adequacy of curriculum in conferring sufficient knowledge and skills for future role of medical students (n=184)

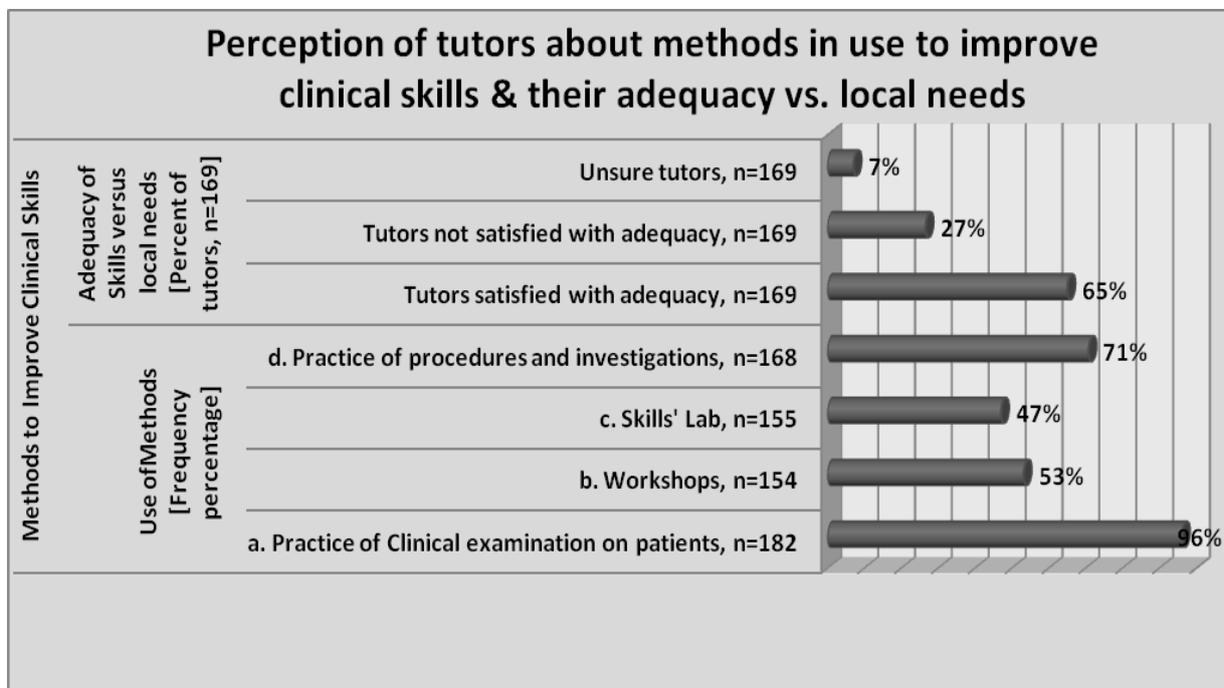


Figure 4: Perception of tutors about methods in use to improve clinical skills and their adequacy versus local needs

Criterion F: Curriculum structure, composition and duration

Basic standard: The medical school must describe the content, extent and sequencing of courses and other curriculum elements, including the balance between the core and optional content, and the role of health promotion, preventive medicine and rehabilitation in the curriculum, as well as the interface with unorthodox medical practice.

Only 37 tutors (approximately 20% of 178 respondents) said their curricula had optional components, 103 (60%) did not agree and 41 (20%) did not know. One hundred and fifty eight (87%) of 181 tutors agreed that curriculum states the topics to be taught. Only 102 (56%) and 105 (58%) agreed that it states the 'depth' and 'sequence' of topics to be taught [Figure-5].

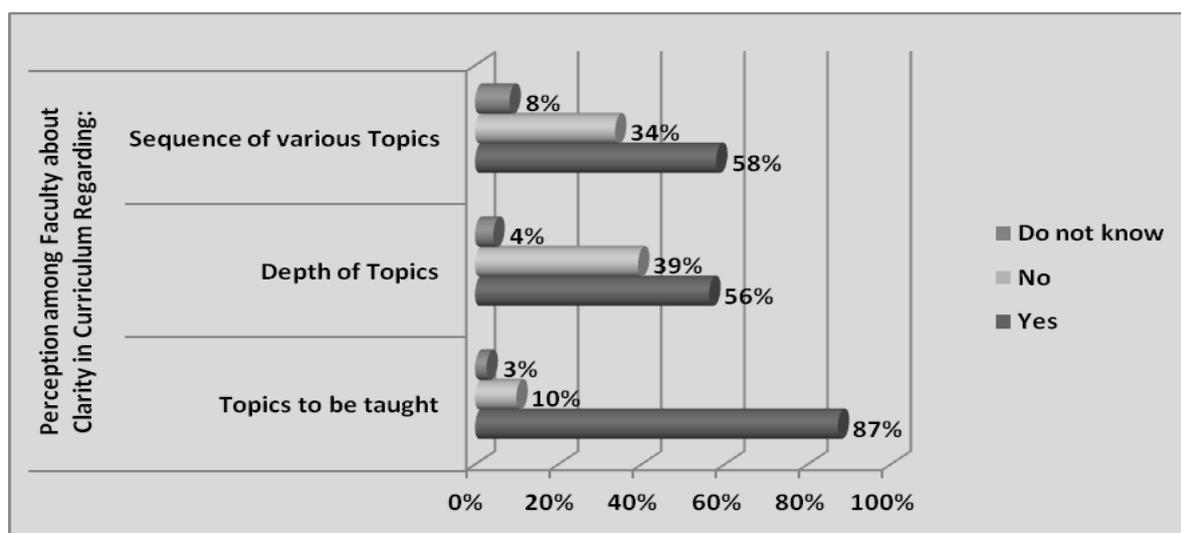


Figure 5: Faculties' perception of clarity of curriculum regarding topics to be taught, their depth and sequence (n=181)

The role of and interface with unorthodox medicine was not a part of curriculum [Table-4].

Table 4: Tutors' perception of inclusion of various subjects in the Curriculum-II (n=182)

	Yes		No		Do Not Know		Total	
	No.	%	No.	%	No.	%	No.	%
Preventive Medicine	160	88%	15	8%	7	4%	182	100%
Community Medicine	181	99%	0	0%	1	1%	182	100%
Health Promotion	110	60%	57	31%	15	8%	182	100%
Rehabilitation	84	46%	77	42%	21	12%	182	100%
Interaction with Alternative Medicine	9	5%	164	90%	9	5%	182	100%

Criterion G: Programme management

Basic standard: The curriculum committee of the medical school must be given the authority for planning and implementing the comprehensive curriculum, which goes beyond

specific discipline interests, and the ability to exhibit sufficient control over the curriculum to secure its objectives being achieved within the existing rules and regulations.

One hundred and sixty (87%) of 183 respondents mentioned that their institutions follow a national curriculum, 21 (12%) thought their institutions followed their own curricula. Only 113 of 186 participants thought the curricular committees

existed in their institutions. Out of these only 40% (46/113, only 24% of total 186 respondents) believed committees had sufficient

powers, 48 (42%) believed that they were free of political pressures [Figure-6].

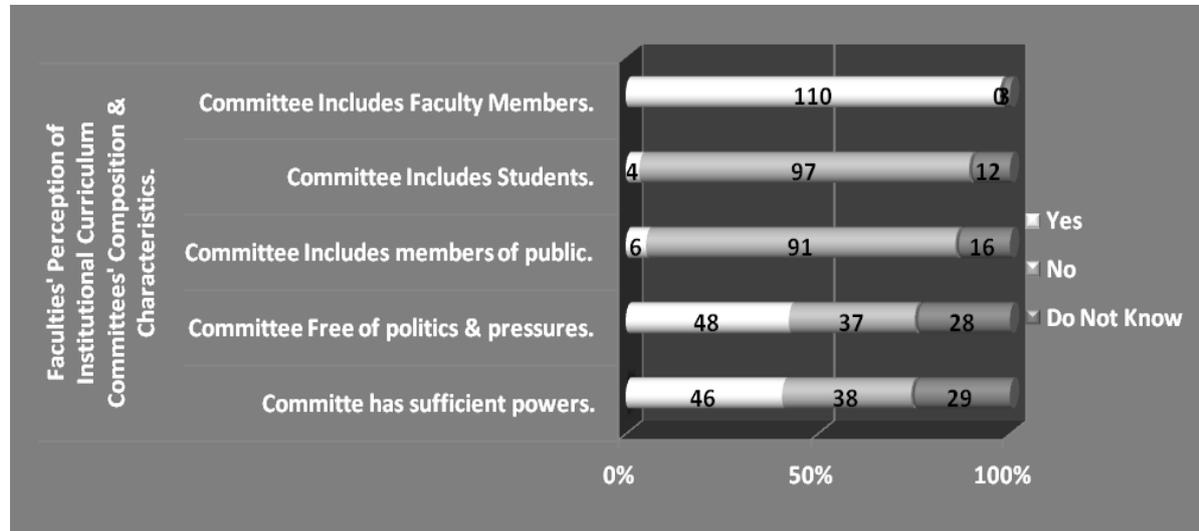


Figure 6: Faculties' perception of institutional curriculum committees' composition and characteristics (n=113)

Criterion H: Linkage with medical practice

Basic standard: Operational linkage must be assured between the educational programme and the next stage of training or practice that the student will enter upon graduation.

Forty-four (26.2%) of the 168 participants who responded to this question thought an operational link existed between the medical college and teaching hospital while a vast majority (115, 68.5%) did not agree; 9 (5.4%) said they did not know. Eighteen participants did not respond to this question.

Discussion

Like other parts of the world, medical education in South-East Asia has also experienced many changes and challenges over the last few years. The countries of the region have taken initiatives with the help and support of international organizations to reorient their medical education in order to meet the emerging community needs [7 – 14]. The establishment of medical education units in many medical schools and initiation of teachers' training programmes in recent years

have led to increased interest in teaching methodologies and sporadic research activities in medical education. The overall outcome is not frustrating, rather encouraging, as an

"educational environment for change" is beginning to emerge in the arena of medical education [7, 14, 15, 16].

In the background of an intense competition and globalization of the medical profession, it is imperative that our graduates and postgraduates are ready to face the challenge to take up professional positions anywhere in the world. They need to be knowledgeable, clinically competent and demonstrate professionalism. The medical educational institutions have to establish quality standards and constantly strive to enhance them through innovations and regular monitoring. The motivation to maintain quality may come from external agencies such as regulatory bodies, which prescribe minimum requirements or from internal impetus.

The World Health Organization (WHO) and WFME have established a joint policy on improvement of health system performance through improvement of the education of health

professionals. The overall mission of WFME is to improve the health for all through promotion of high-quality medical education [17]. Over past few years, a number of initiatives have been taken internationally to ensure quality assurance in higher education, establishing accreditation standards for basic medical education [4], postgraduate medical education [18] and continuing professional development of medical doctors [19].

All medical universities and colleges should commit to modify their curriculum to meet the challenges of tomorrow. They should institute for sharing and pooling scarce resources; collaborate with non-governmental organisations outside universities and develop mutually beneficial relationship.

Currently the medical curriculum in Pakistan is formed by Pakistan Medical & Dental Council (PMDC) and Higher Education Commission of Pakistan (HEC). Curriculum development is taken as a job of huge responsibility in Pakistan, especially for the medical sector. Authorities trust and involve only the senior faculty members, usually heads of departments from various institutions for this task. With the advancement of knowledge of medical education the political favourites are becoming a thing of past though probably they cannot still be totally ruled out. The climate is moving towards healthier practices, by involving faculty members from various medical institutions in training workshops in medical education. This is a step towards involving these faculties in implementation of curricula in their institutions and may make way for their role in curriculum planning in their respective institutions; but it still seems far from considering students or public members to be consulted for such a task.

Aslam [20] suggests a dire need to reform medical education in South East Asia, with involvement of students in policymaking issues. He urges that students' roles should be enhanced from those of mere consumers of medical education to those of contributors. All the medical institutions are required by the PMDC, which is a regulating body for all medical colleges, to comply with this curriculum as a minimum national standard or face confiscation of their licence as a medical college. This makes best use of limited resources of the country while maintaining standards of doctors' education nationally. Weaknesses in these standards identified as areas non-compliant to WFME

basic standards in our study optimistically may only need few years of commitment and determination to rectify. We also felt a compelling need to:

1. Ensure regular updates in curriculum
2. Create institutional curricular committees to enhance local awareness and overcome deficiencies in curriculum at implementation level
3. Ensure faculty involvement
4. Promote students' awareness of available alternate medical practices

Pakistan has a good postgraduate education system; upgrading the undergraduate education to the same levels and harmonizing the two to create a seamless training programme for doctors from undergraduate to postgraduate levels and beyond can be facilitated by devising formal functional links between PMDC, the teaching hospitals and the College of Physicians & Surgeons Pakistan (CPSP). These links can be utilized to monitor competencies of their graduates and use these to inform the curriculum. This upgrade can be facilitated by involving the postgraduate policymakers and faculty experts to train their undergraduate counterparts at least in some aspects and borrowing help from international partners; all of this requires an utmost commitment and cooperation among policymakers, investors and educators to enable a fundamental shift in pedagogic approaches from traditional to need based.

Conclusions

The study provides a level of understanding of the standards of medical education in Pakistan on a national level. We recommend more studies with a potential to explore wider in various dimensions, e.g. widening the scope of research in terms of involving perceptions of students and possibly patients who are final beneficiaries of the system, as well as involving private medical institutions to get a fuller picture. Studies with potential of digging deeper, probably backed with better resources than ours will be required to have a comprehensive understanding of the medical education system in Pakistan.

Strengths & Limitations of Our Study

Our study was the first national level study of its kind addressing an area not visited before in research in Pakistan. Our time and resource constraints did not permit triangulation of the

data using other stakeholders including students or patients, though we are aware of the useful contribution this could have made to our research. Moreover, owing to the extensiveness involved in mapping compliance for all the basic standards of WFME, we had to restrict ourselves to a selected area (Area 2, Educational Programmes); we understand the invaluable information we could have collected if we mapped for all areas but our time and resources restricted us. Besides, our study design involved use of questionnaires, which would have been too extensive and impractical if we chose to probe into all areas.

The Road Ahead: Future Research Needs

Short term 'Research & Actions' Needs

1. Addressing the gaps identified in our study to meet the WFME basic standards in order to match the competencies of medical graduates not only to the national but the global health challenges.
2. Mapping the perceived compliance with other areas in WFME basic standards not covered in our study, and use of other stakeholders if resources allow, in order to identify strengths and weaknesses in other 8 areas of WFME standards and taking appropriate action.

Research & Actions Recommended in the Long Run

1. A thorough needs' analysis, either on national level or multiple studies at provincial or local level for in-depth understanding of local and national health and medical education needs.
2. Compilation of a central, accessible, national disease burden data; preferably online.
3. A consensus on what global needs/standards the curriculum should aim to satisfy in order to produce globally competent doctors in this era of international migration.
4. Commitment among curriculum planners and policymakers on how to bring major transformations in curriculum that address the agreed set of needs and how to ensure implementation.

5. Decide on time scale or deadlines for changes and ensure robust planning to meet the deadlines.
6. Decide in how many years the policymakers should be able to meet again to plan for further advancements to step up the ladder of WFME quality standards, or other equivalent standards perceived more useful/ apt to the national and global theme and aspirations.
7. Appointing identified educational experts as 'Whips' for all these years to ensure steady progress!

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