

ORIGINAL ARTICLE

**OVERVIEW OF EXAMINATION STANDARDS AND EVALUATION PROCESS CONDUCTED BY OUT-SOURCED UNIVERSITIES BY PAKISTAN MEDICAL AND DENTAL COUNCIL FOR FOREIGN QUALIFIED MEDICAL PROFESSIONALS IN PAKISTAN**

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**Background:** Pakistani nationals that obtained foreign basic/additional medical/dental qualifications need to be registered with Pakistan Medical and Dental Council (PMDC) to serve in health delivery system after qualifying the National Examination Board (NEB) conducted by the outsourced universities. The aim was to analyse the results and the factors that influence the NEB examinations held for accreditation conducted by different universities from the year 2010 to 2015. **Methods:** The register based data was collected from the NEB section of PMDC for examinations conducted in the year 2010, 2013, 2014 and 2015. The format of the examination comprises three parts that include Step I, II based on written assessment composed of both multiple choice and subjective questions. Step III is designed for oral assessment, i.e., viva voce. All these examination were held in Islamabad conducted by the outsourced universities. **Results:** The percentage of candidates that has passed all the examinations, Step I, II & III held by various universities varies across the universities. Further, the percentage of passed candidate remains low in Step I & II as compared to candidates passed in Step III. Overall the result of Step III shows a wide gradient that ranges from 50% to 98% among the different universities. Likewise, the lowest percentage of passing candidates in Step I and Step II remains 4% and 9% respectively as compared to 50% in Step III. **Conclusion:** There is a wide gradient in the results of NEB examination among universities due to lack of uniformity and standardization of assessment process. In addition, with regards to the approach of examination venue, the faced issues include lack of accessibility and cost effectiveness. The PMDC needs to institutionalize a robust and vigorous accreditation system equipped with inbuilt evaluation indicators that should steer to devise strategies to improve the accreditation process.

**Keywords:** Accreditation, Medical Education, Outsourcing, Universities, Pakistan Medical and Dental Council (PMDC), National Examination board (NEB)

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**INTRODUCTION**

Medical education is a continuous and evolving process globally. It is a constant process to maintain quality standards as this field deals with valuable human lives. Different methods and approaches have been utilized to improve the process of examination and regulations. Many efforts are undertaken in different parts of the world to improve the standards of medical education at conceptual and implementation level to improve the overall quality of medical care in these countries.<sup>1</sup>

A regular comprehensive analysis is required to address all the aspects of medical education including inadequate and uneven distribution of resources allocation, deficient innovative approaches in curricula, inadvertent private sector growth, comprehensive and efficient accreditation system and improved assessment methodologies. The system should be devised with inbuilt evaluation processes that steer to make appropriate and cost-effective strategies to achieve high standards in the field of medical education.<sup>1</sup>

In Pakistan medical education has gone through a long process of evolution over the years.<sup>2</sup> Pakistan Medical and Dental Council (PMDC) is a statutory regulatory body established through ordinance 1962 for the medical and dental profession.<sup>3</sup> All the medical practitioners at the national level are registered with PMDC for quality assurance and standardization of the basic medical qualification to ensure that they are qualified to deliver health care. The PMDC registration qualifies the medical professionals to become eligible to practice in Pakistan.<sup>2</sup>

The medical and dental doctors complete their medical education in two different settings both within and outside Pakistan. The doctors graduated from the PMDC approved/accredited colleges and universities located within Pakistan are registered with PMDC once they complete their education. The Pakistani nationals that obtained foreign basic/additional medical/dental qualifications need to be registered with PMDC to ensure uniform standardization of quality of education.

Prior to 1992, all the foreign medical professionals were registered with PMDC through the assessment on the basis of professional competency system.<sup>2</sup>

The applicant graduates were assessed through clinical attachment for a period of 4–6 weeks with the consultant professor of the respective discipline. The PMDC registration was awarded on the basis of recommendation through assessment report the supervising professor. There were irregularities pointed out in the assessment system that led to debate at the council. PMDC reviewed and considered improvements in the process. Detailed debate and deliberation led to the introduction of National Examination Board (NEB) examination for the foreign medical and dental graduates in 1990 and 2000 respectively.<sup>2</sup>

However, the graduates from six Chinese medical universities were exempted from this exam and were registered under the second schedule section of PMDC Ordinance 1962. Till 2009 the NEB examination was conducted by the PMDC itself. However in 2009, due to the increase in the number of foreign graduates and for conducting a valid, reliable, objective and practical evaluation the NEB examination was outsourced to the reputed public sector medical universities located in all the provinces of the country to be held in a rotating schedule. The examination format comprised of three parts including step I, II and III. Later, an Act no XIX of 2012 was introduced as an amendment.<sup>4</sup> According to this Act, all the Pakistani applicants having foreign basic medical/dental qualification will have to qualify for PMDC registration including the one from the Chinese Medical Universities.<sup>3</sup> It is pertinent to investigate the current accreditation practices to enhance the accreditation processes to register skilled medical professionals.

The aim of this study was to determine the factors that influence the NEB examinations held for accreditation conducted by different universities from the year 2010 to 2015.<sup>5</sup>

## MATERIAL AND METHODS

The register based data was collected from the NEB section of PMDC for examinations conducted in the year 2010, 2013, 2014 and 2015.<sup>5</sup> The format of the examination comprises three parts including Step I, II & III. First two parts are based on written assessment comprising both multiple choice questions and subjective questions. The third part is designed for oral assessment i.e., viva voce.

All these examination were held in Islamabad conducted by the outsourced universities. Initially, in 2010, Step I and II were conducted by University of Health Sciences, Lahore. During February 2013, Khyber Medical University conducted Step III of NEB

exam, followed by Step I, II & III in May and June. Later, in the month of October and December 2013, all three Steps of examination were conducted by Liaquat Medical University, Jomshoro.

This was followed by Step I, II, & III examination during March and June (2014) again by Khyber Medical University. Following this, Dow University of Health Sciences, Karachi conducted all three Steps of NEB examination during February, April, September and November 2015.<sup>5</sup>

The policy was to out-source to the public sector medical universities in all the provinces for transparency and equal representation as there were many complaints when it was being held by PMDC alone.

## RESULTS

The details of all the assessments conducted during the study period including names of university, period, type of examination and the number of candidates appeared and passed are shown in table-1.

The percentages of passed candidates in Step I and Step II vary across the universities and also the percentage remains low in Step I & II as compared to candidates passed in Step III (Table-1). The percentage of passing candidates in Step I range from 9 to 34% in University of Health Sciences, Lahore and Dow Medical University respectively from 2010 to 2015. Likewise Step II results range from 4% in University of Health Sciences, Lahore and 52% in Dow University of Health Sciences from year 2010–2015.

The percentage of candidates that has passed in final Step III held by various universities varies (Table-2).

In Khyber Medical University the percentage in both step III remains 77% and 69% in exams held during 2013 followed by 98% in 2014. However, only 50% of the candidates passed examination held in Liaquat Medical University during 2013. However, the percentages of students passed in 2014 were 98% and 80% passed in Khyber Medical University and Dow Medical University respectively. Finally in 2015, 91% were passed in examination held by Dow Medical University. Overall the result of Step III shows a wide range from 50 to 98% among the universities.

Likewise lowest percentage of passing candidates in Step I and Step II remains 4% and 9% (2010) respectively as compared to 50% in Step III (2013). Also highest percentage of passing candidates remains 23% and 52% in Step I and Step II respectively compared to 98% in Step III.

The number of passed candidates not only varies with wide gradient across universities but within the results of all the Steps.

**Table-1: Table showing the percentages of the candidates passed in NEB examination held in outsourced universities during 2010 to 2015**

University	Year	Month	Step	No. of Candidates	No of Candidates passed	% Passed
University of Health Sciences, Lahore	2010	Jan	I	526	46	9
		June/July	II	507	20	4
Khyber Medical University	2013	Feb	III	82	63	77
		May	I	1169	180	15
		May	II	730	264	36
		June	III	285	196	69
Liaquat Medical University	2013	Oct	I	1638	238	15
		Oct	II	710	110	15
		Dec	III	197	98	50
Khyber Medical University	2014	Mar	I	1376	386	28
		Mar	II	801	139	17
		June	III	236	232	98
Dow University of Health Sciences	2014	Sep	I	1508	514	34
		Sep	II	1038	463	45
		Nov	III	474	377	80
Dow University of Health Sciences	2015	Feb	I	1478	333	23
		Feb	II	1095	571	52
		April	III	657	600	91
University of Health Sciences, Lahore	2015	Sept	I	2139	504	24
			II	845	630	75

**Table-2: Table showing percentages of the candidates passed in final Step III of NEB examination held during 2013, 2014 and 2015.**

University	Year	Month	Exam/Step	No. of Candidates	No of Candidates passed	% Passed
Khyber Medical University	2013	Feb	III	82	63	77
		June	III	285	196	69
Liaquat Medical University	2013	Dec	III	197	98	50
Khyber Medical University		June	III	236	232	98
Dow University of Health Sciences	2014	Nov	III	474	377	80
		April	III	657	600	91

## DISCUSSION

A robust and vigorous accreditation system can be constructive in persuading individuals and institutions for self-assessment and enhancement. Further, it inculcates a culture among professionals to gain high-quality medical education based on established standards.<sup>6,7</sup>

In Pakistan, the examination has been outsourced that may be beneficial in opening new arenas of revenue generation for the medical universities. However, lack of standardization may not be favourable, advantageous and justified for the candidates and medical education. In other countries, the evaluation process is adopted by the regulatory bodies on its own in order to maintain the quality of standards for the foreign qualified graduates in the field of medical education to enable them to practice in the respective country. In India, the licensure examination is mandatory for foreign graduate referred as screening test/Foreign Medical Graduates Examination (FMGE) along with a one-year internship at an Indian teaching hospital since 2002.<sup>8,9</sup> Bangladesh is practicing the same<sup>10</sup>. Countries including the United Kingdom and United States of America are conducting PLAB and USMLE for accreditation and quality assurance of standards in medical education.<sup>11,12</sup>

Data shows disparity and variation in the numbers of passed candidates among the universities. This finding guides that efforts are needed to develop strategy and policy that bring in uniformity and standardization. In countries including India, and Bangladesh, the assessment for accreditation is conducted by the regulatory bodies of the respective countries which enable it to maintain uniformity 8–10. Educational Commission for Foreign Medical Graduate (ECFMG) Certification is a requirement for International Medical graduates to take United States Medical Licensing Examination (USMLE) and to obtain a license to practice medicine in the United States. Similarly, the United Kingdom and Canada also conducts examination for foreign graduates.<sup>11–13</sup>

A concern regarding outsourcing clearly demonstrated in our data is that outsourcing involves different universities that may have a varied culture of training, assessment, and evaluation. The vision of academia varies both in the development of assessment tool and marking scheme. These factors may affect the assessment results introducing variation unknowingly. The multiple choice question may give standardized marking, but subjective assessment could have varied gauge by different examiners. This factor could be the reason for such gross difference in the results among various universities. Further, the variation in the

percentage of passing results within steps could be due to the format of examination, as first two parts are written and theoretical. The reduced number of passing candidates in first two steps may either be due to compromised capacity of the students as the candidates study abroad as they have not achieved required grades in the secondary education and entry test. This also makes the standard of medical education in the medical colleges questionable from where the students studied. Other factors could be a language barrier in the host country, different format of curricula and assessments etc. that may be a hindrance in learning process during the study phase. In order to address the variation in results among universities, efforts should be made towards bringing in uniformity and standardization of tools and markings of the assessment process. The institution of PMDC may need to institutionalize and develop the capacity to conduct the examination itself as it will facilitate in standardized assessments and transparency.

Another issue which should draw attention is the venue of examination that makes its accessibility difficult to the students in terms of resources, timing, and approach. As witnessed in examination like PLAB and USMLE are highly approachable in terms of accessibility to the candidates.<sup>1,11,12</sup> They are held in distant parts of the world through e-based testing. PMDC may also focus to adopt these approaches making it more accessible and cost effective.

The limitation of this study is that we could not gauge the perspectives of the other stakeholders including students that may have their concerns. The views, feedback and experiences of the students should also be explored to improve the accreditation process. It is recommended that reforms in assessment and standardization of NEB examination will enhance the accreditation process both in terms of resources for the institution and for the candidates.

## CONCLUSION

There is a wide gradient in the results of NEB examination among universities due to lack of uniformity and standardization of assessment process. In addition, with regards to the approach of examination venue, there are faced including lack of accessibility and cost effectiveness. The PMDC needs to institutionalize a robust and vigorous accreditation system equipped with inbuilt evaluation indicators that should steer to devise strategies to improve the accreditation process. In order to address the discrepancies in results among

universities, the capacity to conduct the examination should be developed by the PMDC itself as it will enhance standardization and transparency. Approaches like e-based testing should be adopted and tested to enhance the accessibility and cost effectiveness.

## AUTHOR'S CONTRIBUTION

SMK: Data analysis, data interpretation, write up, and proof reading. RAM: Conceptualization of study and data collection

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