

## Perceptions of faculty on promotion policy in medical and dental colleges associated with Shaheed Zulfiqar Ali Bhutto Medical University Islamabad, Pakistan

Muhammad Riaz Shahbaz Janjua,<sup>1</sup> Jamilah Janjua,<sup>2</sup> Shazia Muazam,<sup>3</sup> Gohar Wajid<sup>4</sup>

### Abstract

**Objective:** To explore the perceptions of medical and dental faculty regarding the existing promotion criterion and develop a proposed alternative criterion.

**Method:** The qualitative exploratory study was conducted from November 2019 to May 2020 at Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad, Pakistan, after approval from the Islamic International Medical College which is affiliated with Riphah International University, Rawalpindi, Pakistan. It comprised focus group discussions involving experts from two medical and dental colleges from both private and public sectors. Data was analysed manually to develop codes, subthemes and themes.

**Results:** Of the 24 participants, 12(50%) participated in each of the two focus groups discussions. Each discussion included 1(8.3%) principal, 2(16.7%) professors, 1(8.3%) associate professor, 2(16.7%) assistant professors and 1(8.3%) senior lecturer from basic sciences, and 1(8.3%) professor, 1(8.3%) associate professor and 1(8.3%) assistant professor from the clinical side as well as 1(8.3%) final year student each from the medical and dental streams. All 24(100%) believed that the current promotion criteria was unrealistic, inconsistent and biased, and lacked justified faculty evaluation; 19(80%) agreed on strengthening the role of research in promotion; 3(12.5%) highlighted lack of opportunities for post-graduation, and 18(75%) were in favour of introducing faculty e-portfolio. Collectively, they suggested that in order to make the criteria dependable, it should include comprehensive teacher assessment with mandatory continuing professional development activities, by standardising research work, and through introducing robust faculty promotion policy and guidelines.

**Conclusion:** Faculty opinions outlining the gaps in the existing promotion criteria of medical and dental colleges associated with a specific medical university in Pakistan carries critical value as they proposed a modified criteria contextual to the needs of the faculty.

**Keywords:** Faculty promotion criteria, Scholarship of teaching, Scholarship of research, Pakistan medical and dental regulatory body. (JPMA 72: 866; 2022)

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### Introduction

Teachers influence educational institutions learning environment through their active involvement in the academic process. Their professional competence affects students' academic achievements throughout their duration of study.<sup>1</sup> In medical and dental institutions, the role of teachers has changed from being a simple information-provider to a facilitator and a mentor. They have to inculcate certain values, skills and ethics in the learners to deal with humans,, thus have a significant influence on the outcome of a medical student, who, if exposed to good role models in their early years, can themselves become exemplary doctors.

These medical and dental teachers are assessed with multiple criteria throughout their career to be promoted

<sup>1,2</sup>Department of Health Professions Education, <sup>3</sup>Department of Anatomy, Hazrat Bari Imam Sarkar Medical and Dental College, Islamabad, Pakistan, <sup>4</sup>Department of Health Professions Education, Cairo, Egypt.

**Correspondence:** Shazia Muazam. Email: shaziamuazam@gmail.com

onwards. This promotion is a passage to a higher rank, motivating them for improvement of scientific value in academia<sup>2</sup> and helps them continuously upgrade their professional skills. Research indicators have overshadowed performance evaluation in academia. This trend is becoming more profound due to the race for global recognition. Globally, higher education institutions focus on contribution to 'research' (mostly in terms of number of publications) more than 'teaching excellence' when considering faculty promotion.<sup>3</sup> Universities, striving for higher ranking favour academicians with most publications.<sup>4</sup> Evidence indicates that increased number of publications given more weightage in promotion evaluations has contributed to predatory journals, gift authorship<sup>5</sup> and "salami slicing".<sup>6</sup>

In North America's several renowned medical colleges,<sup>7-9</sup> faculty members are appointed in different categories, depending on their expertise, experience and interest, and, hence, are promoted according to the expectation of the required category. The University of Toronto Medical

School, Canada,<sup>10</sup> follows tenure track system (TTS) and base the promotions on the demonstration of evidence of excellence in research, teaching or creative professional activity and contribution to the institution. In the United Kingdom,<sup>11</sup> there are three academic pathways: a teaching career, a research career, and a combined teacher-research pathway. Thus, by recognising faculty potentials and capabilities, appropriately motivated and quality faculty can be retained by institutions by providing opportunities in their paths to promotion. In Malaysia,<sup>12</sup> public universities are categorised into research, technical and comprehensive universities. Such stratification has allowed targeted and useful provision of facilities according to the students' interests and utilisation of faculty to its best potential.

In Pakistan, medical and dental colleges are regulated by the Pakistan Medical Commission (PMC) which has developed a criterion for appointment and experience of teachers in medical and dental institutions in collaboration with the Higher Education Commission (HEC).<sup>13</sup> This criterion is a set of minimum requirements and is solely based on the number of years served and the production of a certain number of publications.<sup>14</sup> Emphasising on excellence in education, recent amendments, introduced in 2018, in the promotion component of the criterion requires the acquisition of a six-month certificate course in Health Professional Education. Universities and institutions are encouraged to develop their own criteria for promotion, but almost all universities with the exception of a handful of them have been using this minimum criterion as even this is hindered because of the dearth of faculty in many specialties. Shaheed Zulfiqar Ali Bhutto Medical University (SZABMU) follows the same minimum criteria (Table-1).

The current study was planned to explore the perceptions

of medical and dental faculty regarding the existing promotion criterion and develop a proposed alternative criterion that might help in developing a comprehensive promotion policy, thus improving the standard of teaching in medical and dental colleges associated with SZABMU.

## Subjects and Methods

The qualitative exploratory study was conducted from November 2019 to May 2020 at SZABMU after getting approval from the ethics review committee of the Islamic International Medical College (IIMC) which is affiliated with the Riphah International University, Rawalpindi, Pakistan. In order to explore the perceptions of stakeholders two focus group discussions (FGDs) were used as a tool for gathering data based on the theoretical framework of the constructivist grounded theory.<sup>15</sup> The sample was raised using purposive sampling technique from one private-sector and one public-sector institution having both medical and dental constituents. The FGDs comprised principals, professors, associate professors, assistant professors, and senior lecturers from both basic and clinical sciences. All the participants had experienced the process of promotion in their career pathways or had been appointed for the first time as a medical / dental teacher. Final year students representing both medical and dental streams were purposively selected on the basis of their curricular and extra-curricular excellence. Students were included to get their point of view as they are at the receiving end of the whole process of faculty promotion. Informed verbal consent was obtained from the participants. Visiting faculty, PMC representatives and non-medical administrators were excluded.

Keeping in view the convenience of the participants, the first FGD took place at a local social club, while the second was conducted online using the Zoom platform because

**Table-1:** Existing Pakistan Medical Commission (PMC) criteria for appointment/promotion of faculty.

Post	Degrees	Experience	Research
Senior Registrar	MBBS, Level III degree	Not required	Not required
Assistant professor Basic Sciences	MBBS, Level 3 or level 2B degree	1 year with level 3 2 years with level 2B	2 research papers
Assistant professor Clinical Sciences	MBBS Level 3 + CPSP/Uni Supervisor	2 years as SR	2 research papers
Associate Professor	Same + Certificate in Med Education	2+5 years	2+7 research papers
Professor	Same as above	2+5+3 years OR 9 years as Assist. Prof.	2+7+6 research papers

MBBS: Bachelor of Medicine and Surgery, SR: Senior registrar, CPSP: College of Physicians and Surgeons, Pakistan.

**Table-2:** Focus group guide.

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- What are your general thoughts about faculty promotional criteria in Pakistan?
  - How do you find it different from international standards?
  - Where will such criteria lead us in future?
  - Are there other recommendations that you have, or suggestions you would like to make?
  - What are your thoughts and experiences regarding academic performance indicators and their subjectivity?
  - Does anyone see it differently? Please explain
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of the Coronavirus disease-2019 (COVID-19) pandemic. The principal investigator moderated the sessions and a non-medical note-keeper attended both the sessions.

A, FGD guide was developed for the moderator according to the study needs (Table-2). It had open-ended questions in the beginning, followed by follow-up, probe and exit questions. It was validated by experts in medical education and was pilot-tested on a group of faculty members before conducting the FGDs.

The FGDs were audio-recorded, while ensuring anonymity of the participants by assigning numbers to each participant that was used instead of their names. Both the moderator and the note-keeper took their own notes. Each FGD lasted approximately 90 minutes.

The written and audio data was transcribed by two individuals to ensure quality. Personal and institutional identities were excluded from the transcript. The text was read multiple times to draw a deeper meaning. Manual analysis was preferred as the data-set was small. Mark-up was used in Microsoft Word. The data was sent to three reviewers; one non-medical and two medical individuals. They analysed the transcripts separately and confirmed the codes and themes. Afterwards, the themes and

subthemes were tabulated and sent via e-mail to the participants for member-checking. Slight changes were subsequently made. Codes, subthemes and themes were then finalised.

## Result

Of the 24 participants, 12(50%) participated in each of the two FGD. Each FGD had 1(8.3%) principal, 2(16.7%) professors, 1(8.3%) associate professor, 2(16.7%) assistant professors and 1(8.3%) senior lecturer from basic sciences, and 1(8.3%) professor, 1(8.3%) associate professor and 1(8.3%) assistant professor from the clinical side as well as 1(8.3%) final year student each from the medical and dental streams. The experience of the professionals ranged from 5 years to 40 years, and they together covered areas including Physiology, Pharmacology, Pathology, Forensic Medicine, Dental Materials, Anatomy, Cardiology, Anaesthesia, Ophthalmology, Biochemistry, Oral and Maxillofacial Surgery, General Surgery, Internal Medicine as well as medical education administration.

The initial process resulted in 115 codes. With selective coding, 15 subthemes were identified by grouping similar codes together. In the third cycle of coding, the subthemes were merged to form six themes (Table-3).

The first theme was 'shortcomings in current promotion criteria'. All 24(100%) participants agreed that it was unrealistic, inconsistent and biased. Besides, 2(8.3%) participants pointed to the inconsistency of the criteria as it has been amended thrice over the past five years. All 24(100%) agreed that the regulatory body should develop a system to keep a check on the medical institutions so that the authority is not misused, and promotions are made free of personal biases. One participant responded, "I've been working as assistant professor for the last nine

**Table-3:** Themes and subthemes.

Themes	Sub-themes
1. Shortcomings in current promotion criteria	1. Unrealistic, inconsistent and biased criteria
	2. No prerequisite for teacher training
	3. Same criteria in place for basic, clinical and postgraduate teaching
	4. No room in criteria for evolving changes
2. Lack of faculty evaluation	5. 360o feedback not performed
	6. Psychological profile not evaluated
	7. No check on appointment of misfit faculty with resultant zero input
3. Lack of opportunities for post-graduation	8. Promotions are delayed or capped and senior posts remain vacant
4. Research related issues	9. Low number of publications
	10. Poor quality research
	11. Unethical research practices
	12. Lack of support for conducting research
5. Continuing Professional Development	13. Medical education courses
	14. More reflective experience certificates
6. Introduction of effective and practical guidelines for Faculty	15. E-portfolio for teachers

**Table-4:** Proposed criteria for appointment /promotion of medical and dental faculty.

Post	Degrees	Teaching Experience	Research	Other Pre-requisites
Senior Registrar	1. MBBS/BDS 2. Level III degree. 3. Basic teacher training certificate	Not required	Not required	1. Fitness certificate for teaching from an approved panel of psychologists  2. Two approved training workshops. <u>After one year:</u> 1. Evaluation of teaching activities through observation and E-Portfolio 2. 360 degrees feed back for teaching skills and behavior
Assistant professor Basic Sciences	1.MBBS/BDS 2. Level III degree OR level 2B degree 3:Basic teacher training certificate	1yr with level III degree as demonstrator or SL and 2 yrs with level 2B degree as demonstrator or SL	2 research papers.	1.Fitness certificate for teaching from an approved panel of psychologists 2. Five approved training workshops 3.Approved short course in ME <u>By the end of 2½ years:</u> 1.Evaluation of teaching activities through observation and E-Portfolio 2. 360 degrees feedback for teaching skills and behavior 3.CPSP/Univ. Supervisor
Assistant professor: Clinical Sciences	1.MBBS/BDS. 2.Level III degree 3.Approved CPSP/Univ. Supervisor 4. Basic teacher training certificate	2 yrs as SR	2 research papers	1. A fresh fitness certificate for teaching from an approved panel of psychologists 2. Five approved training workshops 3.Approved short course in ME <u>By the end of 2½ years:</u> 1.Evaluation of teaching activities through observation and E-Portfolio 2. 360 degrees feedback for teaching skills and behavior. 3.Assessment of professionalism and patient care abilities/skills.
Associate Professor:	1.MBBS 2. Level III degree in Clinical sciences & level III OR level 2B in Basic sciences 3. Approved CPSP/Univ. Supervisor 4. Basic teacher training certificate	2 yrs as SR + 5 yrs as Assist. Prof	1. 2 +7 research papers 2. Number of citations & Score altmetric evaluation	1.A fresh fitness certificate for teaching from an approved panel of psychologists 2. Approved certification in ME 3. Evaluation of teaching activities through observation and E-Portfolio 4. 360 degrees feedback for teaching skills and behavior 5. Assessment of professionalism and. patient care abilities/skills. (Only for Clinical Faculty) 6. A total of 15 approved workshops Minimum of 1 workshop of each of the following topics is mandatory: Teaching and learning strategies, Curriculum development, Developing MCQs Assessment, Mentorship , PBL, Leadership Item analysis and administrative role
Professor	1.MBBS, 2.Level III degree in Clinical sciences.	2 yrs as SR + 5 yrs as Asst. Prof.	1: 2 +7 + 6 research papers 2: Number of citations	1. A fresh fitness certificate for teaching and administrative roles

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Post	Degrees	Teaching Experience	Research	Other Pre-requisites
	OR level III & level 2B in Basic sciences	OR 9yrs as Assis Prof.	& altmetric Score evaluation	from an approved panel of psychologists
	3. Basic teacher training certificate 4. Approved CPSP/Univ. Supervisor.	+ 3 yrs as Assoc.Prof.		2.Evaluation of teaching activities through observation and E-Portfolio 3. 360 degrees feedback for teaching skills and behavior. 4. Assessment of professionalism & patient care abilities/skills (Only for clinical faculty) 5. Educational reputation nationally and internationally. 6. Evaluation of leadership qualities administrative role like capacity building efforts. 7. Grading of level of involvement in international research, educational collaboration, research approval processes & allocation of funds.

MBBS: Bachelor of Medicine and Surgery, SL: Senior lecturer, SR: Senior registrar, CPSP: College of Physicians and Surgeons, Pakistan. BDS: Bachelor of Dental Surgery, MCQ: Multiple choice questions, PBL: Problem-based learning.

years because I'm on contract. I'm not promoted to associate even though I am eligible for professor's post." All participants pointed out that the promotional criterion for basic and clinical science faculties was the same though both had different sets of responsibilities. Among them, 1(4.1%) participant voiced the need for criteria to cater to evolving changes like online teaching in the current Covid-19 pandemic. "New things keep getting introduced and developed, and so there has to be some way of having those things incorporated." Another 2(8.3%) subjects emphasised the importance of having a structured criterion involving feedback from stakeholders.

The second theme identified through expert panel discussions related to the 'lack of evaluation of faculty'. All participants were affirmative that evaluation should be 360-degree, involving all stakeholders, like students, peers, patients and their families. "I know so many people sitting at home don't even teach, and they get promoted."

"All those who get the eligibility criteria for associate or assistant professor may not be able to teach ... they are not critically assessed." The participants stressed the importance of the evaluation of professionalism among the faculty members. "We need to aim for knowing the teaching skills of a person."

The participants opined that the criterion lacked the evaluation of psychological profile prior to appointment, and once someone is appointed, there needs to be an

ongoing evaluation of this.

"We will need to assess what kind of psychological profile he has, how is his behaviour with the students ... with the administration."

The third theme, 'lack of opportunities for post-graduation', highlighted a few factors which lead to delayed or capped promotions and senior posts remaining vacant.

"As far as my subject is concerned there's hardly anybody, maybe two or three with [Fellow of the College of Physicians and Surgeons Pakistan] FCPS, so if we keep this criterion then my subject will be stuck at the post of assistant professor"

All 24(100%) participants advocated the fourth theme, 'research related issues', stressing the significance of quality research work beyond mere count of the number of articles.

"There is a race of publications, so some substandard publications also emerge, in which research is not a quality research". There were 3(12.5%) participants who were of the view that for promotion to a professor level, at least three publications should be in impact factor journals. Also, 19(80%) showed concerns about unethical research practices, with gift authorship emerging as a result of high demand for publications. "When a lot of people have to get promoted, gift authorship falls in." All 24(100%) showed concerns at the lack of institutional support for conducting research, not only monetary but also in the

provision of optimum environment and allocation of sufficient time for the faculty.

*"How many teachers have we facilitated that they manage to do a good research ... neither do we provide funding, nor time allocation, or scientific officers or environment."* Overall, 4(16.7%) participants criticised high publication fee demanded by the journals for publications.

'Continuing Professional Development' was the fifth theme. Overall, 18(75%) subjects suggested including teacher training courses as a mandatory part of the criterion to provide continuing professional development. Other suggestions were to amend the experience certificate and to start structured medical education training programmes.

*"An experience certificate should exhibit if he knows how to make [multiple choice questions] MCQs and [short essay questions] SEQs and does he know the teaching strategies..."*

*"... needs to introduce structured [continuing medical education] CME programmes to provide continuing professional development."*

Also, 4(16.7%) subjects were of the view that medical education courses need to be made more affordable and accessible for faculty members. The participants felt the need to include mandatory medical education courses contextual to the teaching activities in medical colleges in Pakistan.

Regarding the sixth theme, 'Introduction of effective and practical guidelines for the faculty', 18(75%) participants were in favour of faculty portfolio. The portfolio should consist of teaching, administrative and leadership experiences of the faculty and should carry 50% weightage in the promotion criteria.

*"A premade proforma for judging the quality of teaching as well as the quantity of teaching ... such proforma should be given to every institute and everybody at the time of appointment, so they know the expectations of them and will work hard to achieve that criteria."*

One senior male participant recommended developing and maintaining clinical faculty logbooks which should be given weightage in promotional evaluation.

*"A logbook implemented from day 1 for the tenure of five years for the [assistant professor] AP ... just like logbooks we have for trainees."*

On the basis of the 6 themes, an alternative promotion criterion was developed (Table-4).

## Discussion

Being a health professional, the title of "faculty" is associated with diverse roles. The scope of professional

duties has changed dramatically over the past decade, but it is sad that faculty promotion criteria and tenure processes in health sciences are in a state of inertia. These criteria are the significant driving force to guide faculty in their scholarly progression.

The current study was conducted to explore the perceptions of faculty about bringing improvements in faculty promotion criteria.

Currently, number of years served and number of publications are taken as parameters for faculty promotion in medical and dental colleges associated with SZABMU.

All participants in the study found the existing criteria, set by the PMC and enforced by SZABMU, as moderately reasonable with ample space for improvement. They considered it to be 'inconsistent' as for the past few years the PMC minimum criterion has been amended multiple times, and as 'static' because no step is added for measuring excellence in teaching or any new parameter associated with integrated curriculum deliveries or participation of faculty in any emerging health issue in the country. There is lack of certain valuable prerequisites in evaluation, like number of training workshops or medical education courses attended by the candidate or evaluation of postgraduate supervisors. Without any standardisation set by the regulatory body while making promotion decisions, the involvement of institutions creates an air of injustice as personal likes and dislikes influence the decision.

Medical faculty in India faces a similar dilemma in their promotion tracks which has been discussed frequently.<sup>16-18</sup> The Medical Council of India has amended its criterion a number of times,<sup>18</sup> but is still not accepted by the faculty. Similarly, in Iran, the medical faculty has expressed reservations about the measures taken by the Iranian Medical Council.<sup>19</sup> In their opinion, social and cultural barriers are not kept in mind while setting a criterion for promotion.

As teaching takes most of the time of medical faculty, the participants of the current study considered the evaluative importance of educational criteria realistic and achievable.

In advanced countries, like the United States<sup>20</sup> and Australia,<sup>3</sup> there is an ongoing debate on unequal weightage given to research compared to teaching-related activities in higher education institutions while considering academic promotions.

Postgraduate training is required in almost all the health

sciences subjects to fulfill the criteria of appointment or promotion. The current study participants admitted that in Pakistan postgraduate trainings are hindered because of the non-availability of training slots, time constraints and shortage of trainers which restrict the promotional progression. They suggested that post-graduation programmes should be facilitated at multiple places to make them more accessible.

Minimal promotional criterion, set by the said university in the current study, includes a fixed number of publications needed at each level. Our participants highlighted concerns in fulfilling this publication requirement. They raised the argument of unethical research practices, substandard and poor-quality research due to lack of funding resources and non-supportive institutional role. They were of the opinion that impact factor of journals in which the articles are published should be considered while making career decisions. Schimanski and Alperin,<sup>2</sup> highlighting the loopholes in promotional track after viewing perceptions of faculty, shared similar views and suggested evaluation of article citations and altimetry, rather than impact factor, while considering promotions. Few other researchers<sup>21</sup> have been affirmative, too, of giving more weightage to the number of citations rather than the number of publications. These parameters, when considered, can make promotion criterion more authentic as they are measurable and can act as key performance indicators (KPIs). Research parameter is considered a main criterion for promotional tracks worldwide. Sanberg et al<sup>22</sup> concluded that universities should be ranked on the basis of impact they have in a society by developing inventions which provide direct solution to society's problems, suggesting the inclusion of the number of patent innovations and researches in promotional criterion of faculty. The current study and the literature quoted above have a common consensus regarding using quality research and its publication by measuring it objectively as fair promotions criterion.

The participants in the current study suggested the need for developing clear guidelines for promotion policies and criteria and needful changes be introduced gradually and holistically. Shilpa and King<sup>20</sup> emphasised that faculty members should be aware of their role and responsibilities at the time of their appointments and should be evaluated accordingly to the level of responsibilities they are expected to carry out. Making faculty members aware of their specific roles and giving them clear guidelines about promotion policy will create an environment of mutual respect, great teamwork and retention of hardworking faculty. Organisations should

incorporate such strategies that support the faculty members in their careers in alignment with institutional mission.<sup>23</sup> The participants in the current study agreed that career progression criterion for faculty should also evolve as institutional goals change with time.<sup>23</sup>

The participants also proposed that promotions criterion should be at two tiers: one at regulatory authority level which is currently endorsed as minimum criteria; following that each institution should develop its own strict and robust promotional criteria in parallel with their own mission statement and after getting feedback from the stakeholders. That criterion should not be limited to the minimum requirements, but should be set on realistic and transparent grounds to show quality than quantity.

While it is easy to measure the scholarship of research, scholarship of teaching is difficult to assess. Teaching can be measured by documenting newly-developed curriculum or assessment strategy, sharing it with peers, publishing chapters or text books, sharing the classroom experiences or addition of new innovative techniques or development of distant learning.<sup>24</sup> The current study suggested that any such contributions should be documented and be made part of the evaluation process. Cataloguing and maintenance of faculty portfolio should be made mandatory at institutional level. Teaching activities should be measured quantitatively throughout career pathway, not as one screenshot, with multiple observations of different activities.

The current study is limited in scope as the sample was from only one region of Pakistan. The current promotional policy suits the participants expecting promotions in the near future. The study was done jointly with basic and clinical science teachers. Ideally, separate studies for each should have been arranged to get a holistic view. Besides, FGD participation was limited to faculty and students. Including the administrators could have added a different perspective, giving a more holistic view to be considered for promotion.

## Conclusion

Though the scope of professional duties in medical and dental colleges has changed dramatically over the past decade, the criterion for faculty promotion is in a state of inertia. Periodic examination of individuals, alignment of individuals and organisational goals by understanding contextual factors can positively influence academic, individual and institutional life. It is important for the decision-makers and regulatory authorities to understand and appreciate the efforts and expectations of faculty to improve the standard of medical education. The criterion should be flexible, with focus on improving the quality of

faculty and providing promotion opportunities for those who show consistent evidence of excellence in scholarship.

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## References

1. Saqib Z, Ishfaq S, Bilal F, Mashood AB, Jehangir A. Analysis of Primary Education at NGOs, Private and Public Schools in Muzaffarabad. *International Online Journal of Primary Education* 2015;4:1-8.
2. Schimanski LA, Alperin JP. The evaluation of scholarship in academic promotion and tenure processes: Past, present, and future. *F1000Res* 2018;7:e1605. doi: 10.12688/f1000research.16493.1.
3. Cadez S, Dimovski V, Groff MZ. Research, teaching and performance evaluation in academia: the salience of quality. *Stud High Educ* 2017;42:1455-73. DOI: 10.1080/03075079.2015.1104659
4. Mukherjee B. Ranking Indian universities through research and professional practices of National Institutional Ranking Framework (NIRF): A case study of selected central universities in India. *J Ind Lib Assoc* 2019;52:93-107.
5. Oermann MH, Nicoll LH, Chinn PL, Ashton KS, Conklin JL, Edie AH, et al. Quality of articles published in predatory nursing journals. *Nurs Outlook* 2018;66:4-10. doi: 10.1016/j.outlook.2017.05.005.
6. Tolsgaard MG, Ellaway R, Woods N, Norman G. Salami-slicing and plagiarism: How should we respond? *Adv Health Sci Educ Theory Pract* 2019;24:3-14. doi: 10.1007/s10459-019-09876-7.
7. Harvard School of Medicine. Faculty of Medicine Handbook. [Online] 2019 [Cited 2020 April 22]. Available from URL: <https://fa.hms.harvard.edu/FoMhandbook>.
8. Johns Hopkins School of Medicine. Overview of Academic Promotions at Johns Hopkins: The Scholarship and the Clinical Excellence Tracks. [Online] 2019 [Cited 2020 January 03]. Available from URL: <https://www.hopkinsmedicine.org/som/faculty/appc/guide/overview.html>
9. Stanford University. Faculty Appointments, Reappointments and Promotions. [Online] 2018 [Cited 2020 April 22]. Available from URL: <https://facultyaffairs.stanford.edu/faculty-appointments>.
10. Temerty Faculty of Medicine University of Toronto. Faculty Appointments and Promotions. [Online] 2019 [Cited 2020 January 04]. Available from URL: <https://medicine.utoronto.ca/facultystaff/faculty-appointments-and-promotions>.
11. University of York. Promotion of Academic, Research and Teaching staff: Criteria and procedure. [Online] 2019 [Cited 2020 April 02]. Available from URL: <https://www.york.ac.uk/admin/hr/pay-and-grading/promotionand-pay-review/academic-promotion/making-an-application>.
12. Azman N, Pang V, Sirat M, Yunus ASM. Teaching and research in Malaysian public universities: Synergistic or antagonistic? In: Shin JC, Arimoto A, Cummings WK, Teichler U, eds. *Teaching and Research in Contemporary Higher Education: Systems, Activities and Rewards*. Heidelberg, Germany: Springer Science+Business Media, 2014; pp 255-76. Doi: 10.1007/978-94-007-6830-7
13. Khan TA, Jabeen N. Higher Education Reforms and Tenure Track in Pakistan: Perspectives of Leadership of Regulatory Agencies. *Bull Educ Res* 2019;41:181-205.
14. PMDC. Regulations for the appointment/promotion of faculty/teaching staff. [Online] 2018 [Cited 2019 December 04]. Available from URL: [www.pmdc.org.pk](http://www.pmdc.org.pk).
15. Chun Tie Y, Birks M, Francis K. Grounded theory research: A design framework for novice researchers. *SAGE Open Med* 2019;7:e2050312118822927. doi: 10.1177/2050312118822927.
16. Dhulkhed VK, Kurdi MS, Dhulkhed PV, Ramaswamy AH. Faculty promotions in medical institutions in India: Can we improve the criteria? *Indian J Anaesth* 2016;60:796-800. doi: 10.4103/0019-5049.193657. 17. Doshi SM. "Teaching experience and research publications" - quantity matters and quality suffers, a medical teacher perspective. *Indian J Pharmacol* 2018;50:144-6. doi: 10.4103/ijp.IJP\_167\_18.
18. Bandewar SV, Aggarwal A, Kumar R, Aggarwal R, Sahni P, Pai SA. Medical Council of India's amended qualifications for Indian medical teachers: Well intended, yet half-hearted. *J Anaesthesiol Clin Pharmacol* 2018;34:1-4. doi: 10.4103/joacp.JOACP\_69\_18.
19. Gilvand A. Pathology of faculty members' rank promotion in universities and higher education institutions affiliated to the ministry of health and medical education of the Islamic republic of Iran. *Int J Med Res Health Sci* 2016;5(Suppl 9):s25-30.
20. Register SJ, King KM. Promotion and tenure: Application of scholarship of teaching and learning, and scholarship of engagement criteria to health professions education. *Health Prof Educ* 2018;4:39-47. doi: 10.1016/j.hpe.2017.02.002
21. Nezhad MA, Tatari F, Borji A. A comprehensive approach to faculty members' promotion policies. *J Adv Pharm Edu Res* 2019;9:115-22.
22. Sanberg PR, Gharib M, Harker PT, Kaler EW, Marchase RB, Sands TD, et al. Changing the academic culture: valuing patents and commercialization toward tenure and career advancement. *Proc Natl Acad Sci U S A* 2014;111:6542-7. doi: 10.1073/pnas.1404094111.
23. Shah DT, Williams VN, Thorndyke LE, Marsh EE, Sonnino RE, Block SM, et al. Restoring Faculty Vitality in Academic Medicine When Burnout Threatens. *Acad Med* 2018;93:979-84. doi: 10.1097/ACM.0000000000002013.
24. Bhavsar GP, Grote K, Galvan MC, Tyutina SV, Guan SS, Stapleton LD, et al. Evaluation of first-year faculty learning communities on teaching effectiveness and scholarship: an exploratory study. *J Fac Dev* 2018;32:23-30.