Original Article

Impact of abolishment of PMDC on Basic Medical & Dental Sciences Faculty Career Path of a Federally Chartered Public Sector Medical University- A Questionnaire Validation Study

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Abstract:

Ascertain validity of a questionnaire which measures the impact of abolishment of PM&DC on Basic Medical & Dental Sciences Faculty Career Path of a Federally Chartered Public Sector Medical University. Cross sectional study conducted on a pre-defined population at a given point in time. Study setting was Army Medical College, Rawalpindi over a period of 2 months. Target population for pilot testing was basic sciences faculty of Army Medical College, Rawalpindi. 12 items questionnaire was designed using Likert scale with 5 options response set. Content validity was assured by expert opinion. **Results:** Inter item correlation represented by Cronbach's alpha was p=0.839. **Conclusions:** The 12 item questionnaire appropriately measures the attitudes and beliefs of basic sciences faculty regarding their career path after abolishment of PM&DC

Keywords : Pakistan Medical and Dental Council (PMDC), content validity, Likert scale, reliability

Introduction:

Pakistan Medical & Dental Council (PM&DC) was established in 1962 through an Ordinance to ensure and maintain the quality of health and medical education standards [1]. The Council made regular revisions in its regulations keeping in view National and International progress and requirements. PM&DC took the responsibility of setting in a standardized criteria for all medical professionals to follow in order to avoid bias. The criteria set for issuing experience for faculty promotions was most sought out and religiously followed all over Pakistan. In 2020, Pakistan Medical Commission (PMC) was established as a successor to PM&DC after its abolishment in vigor towards reformation of government institutions [2]. PM&DC has long been the curator of basic medical sciences professionals in respect of their license, registration, experience

and promotions who have been discouragingly affected after its abolishment. Putting PM&DC out of the picture halted all procedures including issuing of experience certificates, demoralizing all medical professionals including Basic Sciences experts [3]. Considering it's a recent event, secondary data was not available on this matter, hence we formulated a 12 item questionnaire to evaluate the impact of abolishment of PM&DC on basic medical and dental sciences faculty career path [4]. The questionnaire being the first on the subject matter requires validation which is the main crux of this study.

Methods:

After approval from Ethical review committee, a 12 item Questionnaire was designed using Likert scale with 5 options for the respondents to

choose from. Written informed consent was taken from the participants whereby they were primed about the objective, methods, sources of funding, any possible conflict of interest, anticipated benefits, potential risks and other relevant aspects of study [5,6].

Pilot testing [7-9] was carried out on a sample size of 37 (> 40% of target population of 72) which included Basic Sciences faculty of Army medical College/NUMS, Rawalpindi. Clinical sciences faculty and other staff were excluded from target population. The anonymous questionnaire was distributed amongst the faculty members. The confidentiality of the faculty members was maintained by assigning the numbers. Responses of each item were psychometrically analyzed and redundant items were removed[10]. Clarity of concept and item relevance was ensured [11]. Statistical analysis was carried out using SPSS version 23. Item total correlation was extracted and Inter item correlation was demonstrated by Cronbach's alpha with a value > 0.7 taken as a good internal consistency [7,12,13] considering the validation of a developing tool

[7]. Likert scale for the said tool comprised 5 responses to represent respondent opinions. The response set ranged from very poor, poor, average, good and excellent which were numerically categorized on SPSS as 1,2,3,4 and 5 respectively. Expert opinion was taken for content validity from a panel of 5 experts in Medical education belonging to different public and private sector universities [11,14]. A standard permanent reference for our questionnaire is not available hence, criterion validity does not apply [11,15]. Developed questionnaire employed for pilot test is attached, https://forms.gle/KdLx3ueR2ZWE226x6.

Results:

A total of 37 feedbacks which included 9 male and 28 female respondents were statistically analyzed via SPSS version 23.It revealed a good item total correlation and an internal consistency (reliability) among the 12 items represented by Cronbach's alpha was p=0.839. Inter item correlation is demonstrated in table 1.

P VALUE												
Item No.	1	2	3	4	5	6	7	8	9	10	11	12
1.	1.000	.714	.770	.839	.814	.118	.232	-.322	-.033	.083	.133	.190
2.	.714	1.000	.534	.514	.504	-.076	.149	-.359	-.119	.020	.115	.012
3.	.770	.534	1.000	.820	.775	.115	.052	-.239	-.159	.010	.076	.090
4.	.839	.514	.820	1.000	.921	.115	.081	-.289	0.000	.010	.103	.138
5.	.814	.504	.775	.921	1.000	.057	.053	-.330	-.038	-.074	.049	.059
6.	.118	-.076	.115	.115	.057	1.000	.744	.623	.364	.806	.694	.743
7.	.232	.149	.052	.081	.053	.744	1.000	.506	.386	.727	.654	.556
8.	-.322	-.359	-.239	-.289	-.330	.623	.506	1.000	.461	.681	.625	.545
9.	-.033	-.119	-.159	0.000	-.038	.364	.386	.461	1.000	.423	.398	.426
10.	.083	.020	.010	.010	-.074	.806	.727	.681	.423	1.000	.736	.887
11.	.133	.115	.076	.103	.049	.694	.654	.625	.398	.736	1.000	.747
12.	.190	.012	.090	.138	.059	.743	.556	.545	.426	.887	.747	1.000

Table 1: Inter Item Correlation Matrix

Discussion:

The basic sciences faculty of medical and dental colleges have experienced a major setback consequent to PM&DC abolishment and PMC formulation as its successor. The sudden change in regulations regarding especially the registration and promotion criteria has left the medical and dental faculty in distrust. It is imperative that the sentiments, suspicions and perspectives of the said faculty are heard and for that matter, we formulated a plan to measure these attributes. This has been made possible by designing a questionnaire based on Likert scale demonstrating 12 items/questions that are clear and relevant to the subject matter and have flaunted an inter item correlation(Cronbach's alpha) of 0.839 during a pilot test.

The scale we used was Likert scale which is bipolar having strong opposing affirmations at both ends .The quality of the queries ensures the choice of response options by any respondent who needs to grasp the concept behind the question in order to answer genuinely. The feedbacks are then converted into numerical data for statistical analysis[11,14].

The total target population of Army Medical College, Rawalpindi is 72 which includes basic sciences faculty of medical and dental departments. More than 40% of this public contributed in the pilot testing of our questionnaire. Both male and female participants put forward their perception on the said matter with greater frequency of females (28) as compared to males (9). These attributes were put into numerical data for statistical analysis on SPSS version 23. The statistics exhibited a good reliability among all items. Reliability is the reciprocation of a tool such that it computes the attributes, opinions or beliefs in a reproducible state. It is expressed between 0 and 1, with 0 referring to no reliability and 1 demonstrating ideal reliability[12]. The reliability expressed as Cronbach's alpha value in our study is 0.839.

A study was conducted on HIV positive individuals who were allowed to use a mobile application for self-management. The aim was to validate the Health Information Technology Usability Evaluation Scale (Health-ITUES) by getting a post study questionnaire filled by them. This study revealed an excellent reliability of 0.85- 0.92 [16] which is near to the value in our study. Another questionnaire validation expressed a Cronbach's alpha similar to our around 0.84-0.90 where they aimed to develop a Post-Intensive Care Syndrome Questionnaire (PICSQ) and assessed the properties psychometrically of PICSQ in survivors of intensive care unit [17]. An instrument development and validation for the Patient Safety Centers self-assessment in health care institutions exhibited a strong reliability almost equal to the value generated in our study. The Cronbach's alpha value that study showed was 0.857 for their instrument [18]. In another work where a new questionnaire was designed for evaluating software usability in Spanish revealed a Cronbach's alpha of 0.839, an exact match to ours [19]. A study destined for translation and validation of a pelvic floor questionnaire in German to Italian for pregnant and postpartum women exhibited a merely similar Cronbach's alpha of 0.62-0.93 as in our case [20]. The instrument we developed is valid and reliable to be reproduced in a large scale population so that the subject matter can be assessed broadly.

Conclusions:

The tool/ questionnaire has expressed a content validity and reliability for showing the impact of abolishment of PMDC on Basic Medical & Dental Sciences Faculty Career Path of a Federally Chartered Public Sector Medical University

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