ORIGINAL ARTICLE

MEDICAL STUDENT'S FEEDBACK ON FOUNDATION MODULE OF INTEGRATED CURRICULUM AT PUBLIC SECTOR MEDICAL COLLEGE: A PILOT STUDY

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ABSTRACT

Objective: To explore student's feedback on foundation module in first year MBBS curriculum.

Material and Methods: A foundation module of six weeks (from 30th October to 11th December 2017) was piloted in Khyber Girls Medical College, Peshawar-Pakistan. Feedback from the students on the pilot was collected through a questionnaire. The questions were selected from Student Course Evaluation Questionnaire by NWFP–UET with few modification approved from Central Curriculum Committee after consensus with medical education experts. The responses were measured by noting student's agreement using a 5-item Likert scale.

Results: The percentage of overall positive feedback from students on piloting foundation module was 70%.Seventy two percent students were satisfied regarding their own contribution to the foundation module. The 58% student's shows positive feedback regarding learning environment and teaching method, while 80% students were satisfied with the learning resources. Student's satisfaction regarding quality of delivery and assessment were 50% and 71 % respectively. Forty three percent students were satisfied with the module content and organization.

Conclusion: Students appreciated modular system and perceived it very good with regards to an understanding and application of basic science knowledge. Student's feedback will help in improving the overall quality of the curriculum.

Key words: feedback, pilot, foundation module, integrated modular system.

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INTRODUCTION

There is an ever increasing emphasis and scrutiny on preparing medical students for the demands of medical profession. This has led to a major evolution in the curricula of medical schools around the world recently.[1] This increased focus on revision and planning of curricula finds its roots in new approaches like Problem-based learning (PBL) and Community-Based Curriculum (CBC). The intention behind these endeavors is the production of a health professionals that is better equipped to fulfill the needs of the community that they will serve.[2]

Integrated curriculum is designed to be repetitive yet progressive. It is basically attributed with breaking down the boundaries between clinical sciences and basic sciences. It is widely believed that incorporating clinical exposure into the early stages of medical education improves the linking of knowledge from multiple disciplines and enhances the development of clinical skills.[3,4]

Khyber Medical University is in the process of developing an integrated curriculum for MBBS program to replace the traditional curriculum in its affiliated institutes. KGMC is one of the core members of the central curriculum committee tasked with this endeavor. The committee has already compiled the first year modules

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for MBBS and is currently working on the modules for second year MBBS. Before full scale implementation of the new curriculum KGMC decided to pilot the Foundation module. The intention of the pilot project was to get operational experience in implementation of an integrated modular curriculum along with getting a feedback on the module from the students.

Medical institutions and Universities all over the world design and implement orientation programs for their students to facilitate their transition into a professional education environment. Core objectives of this orientation are to acclimatize the students with the setting and outlay of the institute along with its academic program.[5] An orientation component of one week was a part of the foundation module to facilitate the transition of newly enrolled medical students into professional education. In addition the foundation module also incorporated topics from ethics, professionalism, behavioral sciences and Information Technology (IT) skills.

This feedback of the project will help the central curriculum committee to streamline the modular system. It will also be utilized in the streamlining of teaching and learning strategies and improving the educational experience for the students at KGMC. It will also provide a baseline evidence for the administration of KGMC for the full scale implementation of the integrated modular system. Moreover this study will provide a platform to generate research interest in feedback of such courses which ultimately would help improve these courses and bring about effectiveness in their content, duration and implementation. The objectives was to explore student's feedback on foundation module in first year MBBS curriculum.

MATERIAL AND METHODS

It was descriptive cross sectional study. The study was conducted by Department of Medical Education, Khyber Girls Medical College after approval from Institutional ethics committee. Foundation module was a six weeks course in first year MBBS in integrated modular system. The first week was dedicated to orientation of students and started with visits to all the basic and clinical departments of the college and hospital. Orientation sessions about the new course work and the module itself along with its assessment were also part of the First week. The theme 2 in 2nd week was "Cell". The theme 3 in 3rd and 4th week was "Growth and Development of Human Body". The theme 4 in 5th and 6th week was "Human body Tissues, Bones and Joints". Few classes of research, communication skills, professionalism, ethics, behavioral sciences and IT were included in foundation module curriculum as part of longitudinal module.

All the study population was included except those who were not willing to participatein the study. The yearly intake in KGMC is 100, out of which 73 students consented to take part in the study. They ranged in age from 18 to 21 years. They were all females. Foundation module has been prepared by four medical colleges named Khyber Girls Medical College (KGMC), Khyber Medical College (KMC), KMU institute of medical sciences (KIMS), Kohat and Northwest School of Medicine (NWSM) under umbrella of Khyber Medical University. Department of Medical Education of KGMC held multiple meetings with faculty to decide the facilitators and instructors for each topic and the time schedule and the teaching strategy in which the content would be conveyed to students.

The foundation module was conducted from 30th October to 11th December 2017. The questions in questionnaire were selected from Student Course Evaluation Questionnaire by NWFP – UET [6] with few modifications approved from Central Curriculum Committee after consensus. The student's course evaluation questionnaire has been provided by Higher Education Commission to many universities in Pakistan.

We applied reliability test and Cronbach alpha was 0.86(86%) suggesting that item has relatively high internal consistency. The areas included in questionnaire were Module Content and Organization, Student Contribution, Learning Environment and Teaching Methods, Learning Resources, Quality of Delivery, Assessment, Additional Core questions regarding Anatomy, Physiology, Biochemistry, Community Medicine, Pathology, Pharmacology, Forensic Medicine, Behavioral Sciences, Medical Education Instructor / Teaching Assistant Evaluation and Practical's. There was an open section for comments under each area in which the students were asked to give their suggestions to improve the course and make it more relevant and effective.

The responses of participants were measured by noting participant agreement with the set of statements using a Likert scale. The scoring system adopted was: 5-strongly agree with the statement, 4-agree, 3- Uncertain, 2-disagree and 1-strongly disagree. None of the statements were negatively given. All the students of first

year MBBS were included in the study. Those students who were not willing to participate were excluded from the study.

RESULTS

Seventy three out of hundred students participated in the study. Using the predesigned questionnaire, feedback was obtained from them. Microsoft office professional plus 2016 have been used for analysis of data. The feedback of student was taken positive if they marked agree or strongly agree column. The percentage of overall positive feedback from students on piloting foundation module was 70%. Responses to questions in a section were analyzed collectively and yielded the average satisfaction level (agree, disagree, uncertain, strongly disagree, strongly agree) for that section. (Figure 1, 2, 3) Positive feedbackreported was taken as the sum of strongly agree and agree for the section. The percentage of positive feedback from students for module content and organization was 43%, for student's contribution 72%, for learning environment and teaching methods 58%, for learning resources 80%, for quality of delivery 50%, for assessment 71%, for Anatomy Instructors 61%, for physiology instructors 70%, for Biochemistry Instructors 61%, for Pathology instructors 78%, for Community Medicine Instructors 76%, for Forensic Medicine instructors 79%, for Behavioral Sciences Instructors 62% and for Medical Education instructors 88%. Suggestions from students were also recorded for improvement of module in the comment section. (Figure 1, 2, 3)

In response to open ended comment section, most of the students appreciated integrated modular system for better understanding of curriculum and good time management. Majority students said that modular system is more student oriented and it helped a lot in integrating the knowledge in most effective ways. They specially appreciated professionalism and ethics classes in foundation module for being thought provoking subjects and need of hour. Suggestions by students for improvement were: improving teaching methodologies by incorporating more small group teaching instead large group format so that students interaction and active participation could be ensured 64 (87%), providing regular feedback by teachers to enhance effective students learning 60 (82%), training of faculty for their capacity building in modern teaching techniques 50 (68%), early exposure of students to hospital for orientation and acclimatization with clinical 45 (61%), .

DISCUSSION

Foundation module in integrated modular system forms the basis of students' academic life. The foundation courses are conducted worldwide in colleges and universities to familiarize and acclimatize the students with the new academic world and its challenges. The aim of medical education is to bring new perspectives regarding content, methodologies and assessment of medical curriculum and facilitate students to enhance their learning. Integrated modular system has been rec-

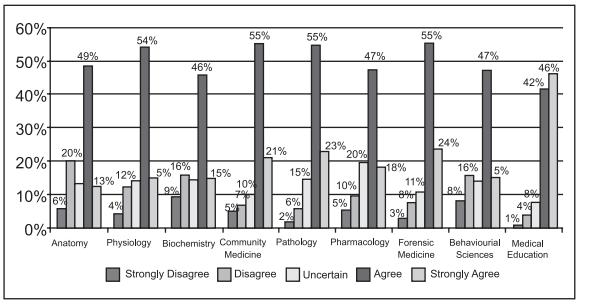

Fig 1: shows student's feedback regarding instructors/Teaching Assistant of different departments. Majority of the students were satisfied with the instructors especially from the instructors of Medical education, Forensic medicine & Pathology department.

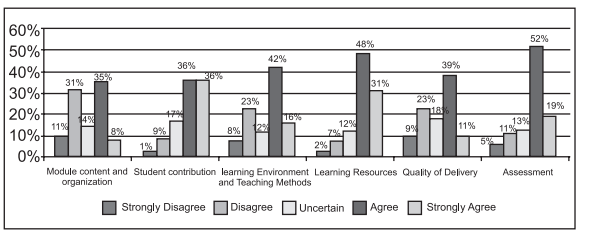

Fig 2: shows that 43% students were satisfied with the module content and organization.72% students were satisfied regarding their own contribution to the foundation module. The 58% student's shows positive feedback regarding learning environment and teaching method, while 80% students were satisfied with the learning resources. Student's satisfaction regarding quality of delivery and assessment were 50% and 71 % respectively.

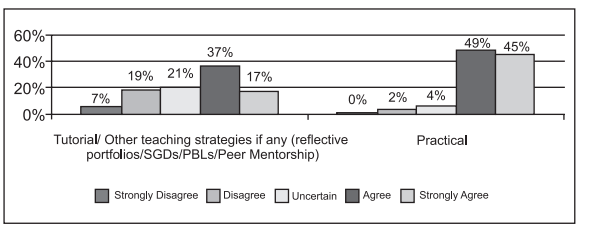

Fig 3: shows that 54% students were satisfied with the other teaching strategies like SGDs & tutorial etc. while 94% students were satisfied with practical's in the foundation module. .

Table 1: Questions for qualitative components of research

S. No	Item	Strongly Disagree n (%)	Disagree n (%)	Uncer-tain n (%)	Agree n (%)	Strongly agree n (%)
Module Content and Organization						
1	The module objectives were clear	1(1.4)	6(8.2)	14(19.2)	42(57.5)	10(13.7)
2	The Module workload was manageable	15(20.3)	35(47.3)	10(13.5)	14(18.9)	0
3	The Module was well organized (e.g. timely access to materials, notification of changes, etc.)	9(12.2)	28(37.8)	8(10.8)	22(29.7)	7(9.5)
Student Contribution						
4	Approximate level of your own attendance during the whole Module	0	2(2.8)	4(5.6)	7(9.7)	59(81.9)
5	I participated actively in the Module	1(1.4)	5(6.8)	12(16.2)	43(58.1)	13(17.6)
6	I think I have made progress in this Module	2(2.7)	13(17.6)	21(28.4)	30(40.5)	8(10.8)
Learning Environment and Teaching Methods						
7	I think the Module was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.)	8(10.8)	19(25.7)	8(10.8)	30(40.5)	9(12.2)
8	The learning and teaching methods encour-aged participation.	7(9.5)	18(24.3)	8(10.8)	27(36.5)	14(18.9)
9	The overall environment in the class was conducive to learning.	2(2.7)	14(19.2)	10(13.7)	35(47.9)	12(16.4)
10	Classrooms were satisfactory	7(9.5)	16(21.6)	8(10.8)	32(43.2)	11(14.9)
Learning Resources						
11	Learning materials (Lesson Plans, Module Notes etc.) were relevant and useful.	4(5.4)	7(9.5)	8(10.8)	39(52.7)	16(21.6)
12	Recommended reading Books etc. were relevant and appropriate	1(1.4)	6(8.1)	6(8.1)	42(56.8)	19(25.7)
13	The provision of learning resources in the library was adequate and appropriate	0	3(4.1)	2(2.7)	31(41.9)	38(51.4)
14	The provision of learning resources on the Web was adequate and appropriate (if relevant)	1(1.4)	5(6.8)	19(26.0)	30(41.1)	18(24.7)
Quality of Delivery						
15	The Module stimulated my interest and thought on the subject area	4(5.4)	14(18.9)	11(14.9)	33(44.6)	12(16.2)
16	The pace of the Module was appropriate	10(13.9)	20(27.8)	20(27.8)	18(25.0)	4(5.6)
17	Ideas and concepts were presented clearly	6(8.1)	17(23.0)	9(12.2)	34(45.9)	8(10.8)
Assessment						
18	The method of assessment were reasonable	7(9.5)	15(20.3)	12(16.2)	31(41.9)	9(12.2)
19	Feedback on assessment was timely	4(5.4)	4(5.4)	7(9.5)	43(58.1)	16(21.6)
20	Feedback on assessment was helpful	1(1.4)	5(6.8)	9(12.3)	40(54.8)	18(24.7)
Additional Core Questions regarding Anatomy Instructor / Teaching Assistant Evaluation						
21	I understood the lectures	3(4.1)	12(16.2)	12(16.2)	42(56.8)	5(6.8)

22	The material was well organized and presented	5(6.8)	16(21.6)	16(21.6)	30(40.5)	7(9.5)
23	The instructors were responsive to student needs and problems	4(5.4)	8(10.8)	4(5.4)	43(58.1)	15(20.3)
24	Had the instructors been regular throughout the module?	5(6.9)	22(30.6)	7(9.7)	28(38.9)	10(13.9)
Additional Core Questions regarding Physiology Instructor / Teaching Assistant Evaluation						
25	I understood the lectures	4(5.6)	13(18.3)	16(22.5)	32(45.1)	6(8.5)
26	The material was well organized and presented	2(2.8)	13(18.3)	10(14.1)	36(50.7)	10(14.1)
27	The instructors were responsive to student needs and problems	5(7.0)	7(9.9)	8(11.3)	42(59.2)	9(12.7)
28	Had the instructors been regular throughout the module?	1(1.4)	2(2.9)	6(8.6)	43(61.4)	18(25.7)
Additional Core Questions regarding Biochemistry Instructor / Teaching Assistant Evaluation						
29	I understood the lectures	8(10.8)	12(16.2)	13(17.6)	34(45.9)	7(9.5)
30	The material was well organized and presented	6(8.1)	14(18.9)	8(10.8)	34(45.9)	12(16.2)
31	The instructors were responsive to student needs and problems	13(17.6)	18(24.3)	15(20.3)	23(31.1)	5(6.8)
32	Had the instructors been regular throughout the module?	1(1.4)	2(2.7)	6(8.2)	44(60.3)	20(27.4)
Additional Core Questions regarding Community Medicine Instructor / Teaching Assistant Evaluation						
33	I understood the lectures	9(13.0)	6(8.7)	7(10.1)	34(49.3)	13(18.8)
34	The material was well organized and presented	3(4.3)	8(11.4)	8(11.4)	34(48.6)	17(24.3)
35	The instructors were responsive to student needs and problems	2(2.9)	4(5.7)	12(17.1)	40(57.1)	12(17.1)
36	Had the instructors been regular throughout the module?	0	1(1.4)	2(2.9)	48(69.6)	18(26.1)
Additional Core Questions regarding Pathology Instructor / Teaching Assistant Evaluation						
37	I understood the lectures	3(4.1)	7(9.5)	11(14.9)	39(52.7)	14(18.9)
38	The material was well organized and presented	2(2.7)	3(4.1)	13(17.6)	41(55.4)	15(20.3)
39	The instructors were responsive to student needs and problems	0	5(6.8)	14(18.9)	38(51.4)	17(23.0)
40	Had the instructors been regular throughout the module?	0	2(2.7)	5(6.8)	44(60.3)	22(30.1)
Additional Core Questions regarding Pharmacology Instructor / Teaching Assistant Evaluation						
41	I understood the lectures	9(12.7)	11(15.5)	13(18.3)	25(35.2)	13(18.3)
42	The material was well organized and presented	3(4.2)	7(9.7)	16(22.2)	31(43.1)	14(19.4)
43	The instructors were responsive to student needs and problems	3(4.2)	5(7.0)	20(28.2)	35(49.3)	7(9.9)
44	Had the instructors been regular throughout the module?	0	4(5.8)	6(8.7)	42(60.9)	17(24.6)
Additional Core Questions regarding Forensic Medicine Instructor / Teaching Assistant Evaluation						

45	I understood the lectures	4(5.5)	10(13.7)	7(9.6)	36(49.3)	16(21.9)
46	The material was well organized and presented	2(2.7)	4(5.5)	9(12.3)	43(58.9)	15(20.5)
47	The instructors were responsive to student needs and problems	1(1.4)	4(5.5)	11(15.1)	42(57.5)	15(20.5)
48	Had the instructors been regular throughout the module?	1(1.4)	4(5.6)	4(5.6)	40(55.6)	23(31.9)
Additional Core Questions regarding Behavioral Sciences Instructor / Teaching Assistant Evaluation						
49	I understood the lectures	12(16.7)	22(30.6)	12(16.7)	20(27.8)	6(8.3)
50	The material was well organized and presented	7(9.7)	13(18.1)	14(19.4)	31(43.1)	7(9.7)
51	The instructors were responsive to student needs and problems	4(5.6)	9(12.7)	12(16.9)	37(52.1)	9(12.7)
52	Had the instructors been regular throughout the module?	0	1(1.4)	2(2.9)	46(65.7)	21(30.0)
Additional Core Questions regarding Medical Education Instructor / Teaching Assistant Evaluation						
53	I understood the lectures	1(1.4)	7(9.6)	7(9.6)	29(39.7)	29(39.7)
54	The material was well organized and presented	1(1.4)	2(2.7)	8(11.0)	33(45.2)	29(39.7)
55	The instructors were responsive to student needs and problems	0	1(1.4)	6(8.5)	30(42.3)	34(47.9)
56	Had the instructors been regular throughout the module?	0	1(1.4)	1(1.4)	28(39.4)	41(57.7)
Tutorial/Other teaching strategies if any (reflective portfolios/SGDs/PBLs/CBLs/Peer Mentorship)						
57	The material in the tutorials/sessions was useful	3(4.2)	8(11.3)	11(15.5)	34(47.9)	15(21.1)
58	I was happy with the amount of work needed for tutorials/sessions	7(9.9)	20(28.2)	17(23.9)	20(28.2)	7(9.9)
59	The tutor/demonstrator/mentor dealt effectively with my problems	4(5.6)	12(16.9)	16(22.5)	24(33.8)	15(21.1)
Practical						
60	The material in the practical's was useful	0	0	1(1.4)	41(55.4)	32(43.2)
61	The demonstrators dealt effectively with my problems.	0	3(4.1)	5(6.8)	31(41.9)	35(47.3)

ognized globally as a system which brings coordination in teaching and learning activities.[7-9]

The admission process of medical students in Khyber Pakhtunkhwa, Pakistan is based on merit list in 10th and 12th class final land entrance examination. The students come from different boards of education and different school environment. In order to get adapted to new educational environment, foundation module facilitates the students in acclimatization and forms the base of integrated modular system. After implementation of foundation module, student's feedback and suggestions are important for corrective measures and improvement for next academic year.

Our study was a first step after piloting the foundation module to explore student's feedback on foundation module in first year MBBS curriculum so that the strengths and weakness of modular system could be identified and rectified before full fledge implementation of modular system from next academic year. Majority of the students were satisfied with the foundation module content, learning environment, learning resources, teaching methodologies and instructors especially from the instructors of Medical education, Forensic medicine and Pathology department. The positive feedback regarding foundation module in medical college was also given in a study by Srimathi[5] in India where the

session was found to be very useful. Similarly student's feedback was encouraging as they were enjoying their studies more and found it easier to manage the burden of curriculum.[10, 11, 12, 13]

In our study, students appreciated modular system and perceived it very good with regards to an understanding and application of basic science knowledge. Similar finding were noted by in other studies.[14-19] The limitation of our study was that we focused only on student's perspective and did not include feedback of foundation module from faculty who are important stakeholders in any program related to medical education. Feedback from parents or guardians would have added to our knowledge regarding suggestions for improvement in foundations module. Another limitation was that it was single centric study, though foundation module was piloted in three other medical colleges, but Department of Medical Education of KGMC conducted this study for improvement at institutional level so that readiness at institutional level could be ensured for next academic year after incorporation the suggestions and rectifying the deficiencies. These could be taken as an area for further research.

CONCLUSION

Student's feedback helped in assessment of overall effectiveness of the course and provided a platform to design better module by incorporating suggestions for improvement at institutional level. The foundation module was perceived positive for familiarization and acclimatization of new entrants with new academic environment. We aim to conduct multicentric qualitative study and involve neighboring medical colleges to share their experience so that we can adequately design a universal foundation module and implement in all medical colleges of province and country as well.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Mahsood N: Conceived, designed, data collection & drafting of manuscript.

Afzal N: Data collection, & editing of manuscript.

Ahsan A: Data collection, statistical analysis and interpretation.

Aziz S: Critical revision.

Ali I: Review and final approval of manuscript.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.