Faculty Satisfication Regarding Modular Teaching

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Abstract

Introduction: Recently many medical institutes have been shifted to the integrated curriculum; however, the implementation of the integrated curriculum has faced problems due to both faculty and student satisfaction. Though faculty gives value to it, still a certain belief that it's not as effective as the traditional system. This study aims to evaluate the satisfactory level of modular teaching among faculty members at three different medical institutes in Pakistan.

Material and Methods: This was a descriptive study where the senior faculty members from three different medical institutes were included. After written consent from participants, the data was collected through a semi-structured questionnaire. A total of 88 faculty members were included through a convenient sampling technique. Data analyzed by SPSS version-22.

Results: Overall 50% of participants agreed that the strength of modular teaching is the integration process & clinical application. 38% agreed that modular teaching provides better understanding & clarity of concepts. Regarding weaknesses, 44% agreed that modular teaching requires more trained faculty, and 27% said that more resources are required. On the other hand, 84% showed satisfaction that students get more benefits from modular teaching as compared to conventional teaching & 72% agreed that teacher biasness is less, 82% agreed that students become lifelong learners, and 85% agreed that more applied knowledge is delivered through this system.

Conclusion: Most participating faculties were satisfied with modular teaching as it has a good clinical application, provides better understanding & a student-centered approach.

Keywords: Faculty, Modular teaching, Perspectives, Curriculum, Integration.

Introduction

Medical education as a discipline tends to produce physicians that are sensitive to the health needs of their country and enhance the capability to deal with the needs while continuing their education.[1,2] Although the basic elements are common to all, the particulars vary from country to country and from time to time depending upon their health care needs.[3] The advancement in health professional education led to a move toward a modular approach for curriculum implementation. The approach had drawn special attention in most nations' education systems, particularly in technical, vocational, and higher education. Pakistan Medical Commission (PMC) and Higher Education Commission (HEC) have asserted the importance of a modular approach to learning in higher education institutions. The modular approach is an emerging trend in educational thinking that shifts traditional methods of instruction to an outcome-based learning paradigm. The AKU is one of the pioneers to adopt this system. Currently, most medical colleges from various areas of Pakistan are adopting this system. Though the facilities are not similar in every medical college therefore there are variations in the satisfaction level and the student's center concept.[4]

The curriculum has promoted critical cognitions and developed management skills along with professional communication and a collaborative attitude that will bring a positive outcome to students' performance.[5-6] Thus there is always a need for up-gradation in curriculum according to the need of the international and national community for both medical and dental curricula.[7] Faculty plays an important role in imparting knowledge and skill among students. The faculty's interest and enthusiasm may lead to a positive outcome for the curriculum to be achieved eventually.[8] Thus the content must be scheduled properly based upon principles of medical education and the health care needs of the community.[9] The facilities in Pakistan are far behind new updates in medical education and the latest trends in medical technology. The curriculum is not in liaison with international requirements.[10] Both HEC and PMC have revised the curriculum and recommended the institutes adopt an integrated system as per international standards for local community needs.[11-12] The need for reform is recognized by the researchers as well.[13] The most important aspect of education is the proper structuring of the curriculum where both students and faculty give their best to overcome the shortcomings. The study revealed that students of the current generation are monotonous in their teaching methods and prefer more interactive learning using information technology such as the internet and other electronic education aid tools. The teaching strategies of teachers in terms of quantity and quality are also essential. Proper monitoring, training, and faculty development program in an institute contributes to competency development among faculty.[6] The purpose of the study is the perspectives of medical faculty involved in undergraduate medical education about integrated medical curriculum in Pakistan.

Objectives: "To evaluate the satisfactory level regarding strengths & weaknesses of modular teaching among faculty members at three different medical institutes of Pakistan."

Materials and Methods

A descriptive cross-sectional study addressed the study objectives. The study was conducted over eight months period from 15th January 2018 to 14th September 2018, after approval of the Institutional Ethical Review Board of SCM-STMU Islamabad. It comprised medical senior teaching faculty Assistant, Associate & Professors from both basic & clinical sciences of selected medical colleges where integrated modular teaching was currently taking place. A convenience sampling technique was used to collect data. Total sample size was 29+28+31 = 88. We included 29 participants from Northwest School of Medicine (NWSM)-Peshawar, 28 participants from Shifa College of Medicine (SCM), Islamabad and 31 participants from Azad Jammu & Kashmir Medical College (AJKMC), Muzaffarabad AJK. A self-administered questionnaire about the satisfaction of medical faculty with modular teaching was used having both closed and open-ended questions for mixed quantitative & qualitative analysis. The questionnaire consisted of a total of 10 questions, first four questions from # 1 to # 4 had close-ended questions, the next four questions from # 5 to # 8 were open-ended while question # 9 contained different items with the Likert Scale and question # 10 is again an open-ended question. Data collected was analyzed via SPSS version-22. Descriptive statistics were estimated for qualitative variables While, proportion, and frequencies for categorical data. Before conducting actual research, a pilot study (feasibility study) was also done at Northwest School of Medicine Peshawar's faculties to check the feasibility and applicability of the questionnaire and research study. About 10% of the total sample questionnaire was distributed among

faculty members (Assistant Professors & above) and based on the results of this pilot study a well-designed semi-structured questionnaire was refined/made for conducting research.

Results

Study was conducted at three medical colleges where integrated modular teaching is currently taking place.

Table 1: Shows institute-wise distribution of study participants

Institutes	Professor	Associate Professor	Assistant Professor	Total n=88	Males = M Females = F
NWSM-Peshawar	12 (41%)	7 (24%)	10 (34%)	29	M =22 (76%) F = 07 (24%)
SCM-Islamabad	7 (25%)	6 (21%)	15 (54%)	28	M =10 (36%) F = 18 (64%)
AJKMC-Muzaffarabad	9 (29%)	7 (23%)	15 (48%)	31	M = 17 (55%) F = 14 (45%)
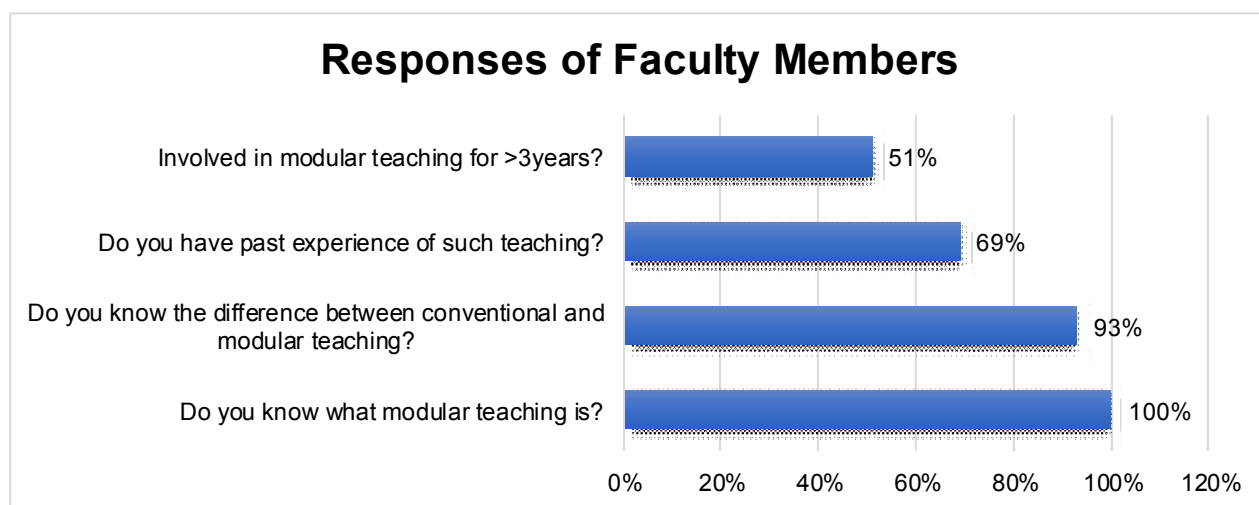
Figure 1: Responses of faculty members who participated in the study (n=88)

Response to Open Ended Question # 5. Strengths of Modular Teaching & Q # 6. Weaknesses of Modular Teaching: Table 2 showed all participants of three institutes' strengths & weaknesses of modular teaching. The concept or category to which 44 (50%) participants agreed is the integration process & clinical application whereas 33 (38%) agreed that modular teaching provides better understanding & clarity of concepts; while 20 (23%) agreed that modular teaching is a student-centered approach & there is active students' involvement. Regarding weaknesses of modular teaching 39 (44%) participants agreed that a weakness of modular teaching is the requirement for more faculties & their training. In addition, 24 (27%) agreed that in modular teaching more resources are required; while 16 (18%) agreed that in modular teaching depth of subject knowledge is compromised as it focuses on more common issues/problems.

Table 2: Strengths & Weaknesses of Modular Teaching (Combined Responses) n=88

S No.	Q # 5. Strengths of Modular teaching Main Categories	Faculty Agreed/satisfied			Total n=88
		NWSM n=29	SCM n=28	AJKMC n=31	
1	Integration & Clinical application	12 (41%)	17 (61%)	15 (48%)	44 (50%)
2	Better Understanding & Clarity of Concepts	14 (48%)	10 (36%)	09 (29%)	33 (38%)
3	A student-centered approach & active students' involvement	08 (28%)	07 (25%)	06 (19%)	21 (24%)
S No.	Q # 6. Weaknesses of Modular teaching Main Categories	Faculty Agreed/satisfied			Total n=88
		NWSM n=29	SCM n=28	AJKMC n=31	
1	More Faculties & their Training is Required	15 (52%)	09 (32%)	15 (48%)	39 (44%)
2	More Resources are required	06 (21%)	09 (32%)	09 (29%)	24 (27%)
3	Subject Knowledge is compromised as the focus main problems	00 (0%)	08 (29%)	08 (26%)	16 (18%)

Q # 7 Opportunities for students & Q # 8 Opinion regarding modular teaching

Table 3 shows the combined responses of all participants of three institutes regarding opportunities for students & opinions regarding modular teaching. The 28 (32%) participants agreed that in modular teaching students' concepts are cleared with better understanding, 23 (26%) agreed that there is the active participation of students and 21 (24%) agreed that in modular teaching the students are more clinically oriented. The majority of the participants agreed 57 (65%) that it is the best system & should be implemented; while 11 (12%) agreed that it is a student-centered approach & students become self and lifelong learners. In addition, 09 (10%) agreed that in modular teaching there is better understanding & clinical application for students.

Table 3: Perceived Opportunities for students & Opinion regarding modular teaching (Combined Responses) n=88

S. No.	Q # 7 Opportunities for students Main Categories	Faculty Agreed/satisfied			Total n=88
		NWSM n=29	SCM n=28	AJKMC n=31	
1	Students Concepts Cleared with Better Understandings	10 (34%)	07(25%)	11 (35%)	28 (32%)
2	Active Participation of Students	06 (21%)	06(21%)	11(35%)	23 (26%)
3	Students are more Clinically Oriented	10 (34%)	05(18%)	06(19%)	21(24%)
S. No.	Q # 8 Opinion regarding modular teaching Main Categories	Faculty Agreed/satisfied			Total n=88
		NWSM n=29	SCM n=28	AJKMC n=31	
1	Good system & should be implemented	17 (59%)	16(57%)	24 (77%)	57 (65%)
2	Student-centered approach & students become self and lifelong learner	08(28%)	03(11%)	00	11 (12%)
3	Better understanding & clinical application	03(10%)	03(11%)	03 (10%)	09 (10%)

Q # 9 with Likert-scale: Parameters of faculties Satisfaction & positive effect of a modular system:
The majority of our participants 74 (84%) agreed that students get more benefits from modular teaching as compared to conventional teaching. This is the strength of modular teaching and overall participating faculties show their confidence in adopting modular teaching. It means that the faculty is satisfied with this new teaching system. About 63 (72%) of participants agreed that teacher biasness is less or nil in modular teaching while 20 (23%) said that no such effect exists. Furthermore, 80 (91%) of participants agreed that the modular system activates the students' critical

thinking abilities. In addition, 72 (82%) of participants agreed that in a modular system the students become lifelong learners as they are allowed to learn by doing and by themselves which is not practiced in a conventional system. Similarly, 73 (83%) of participants agreed that in a modular system the Self Directed Learning (SDL) is enhanced more in this system as compared to the conventional system. Additionally, 76 (87%) of participants agreed that Problem Based Learning (PBL) sessions are unique in modular teaching and these sessions help in better understanding of clinical problems for students.

Table 4: Perception of faculty members about the positive effect of the modular system (n=88)

S. No.	Questions	Strongly disagree	disagree	No Effect	Agree	Strongly Agree
01	Student got more benefit versus conventional.	02 (2%)	08 (9%)	04 (4.5%)	37 (42%)	37 (42%)
02	Teacher biasness is less or no.	01 (1%)	04(4.5%)	20 (23%)	51 (58%)	12 (14%)
03	Student's critical thinking is activated.	01 (1%)	04(4.5%)	03 (3.5%)	44 (50%)	36 (41%)
04	Students become life- long learners.	00 (%)	08 (9%)	08 (9%)	37 (42%)	35 (40%)
05	Students used multiple sources for learning.	00 (%)	01 (1%)	09 (10%)	53 (60%)	25 (28.5%)
06	Self-Directed Learning (SDL) is enhanced more in the system.	00 (%)	02 (2%)	13 (15%)	50 (57%)	23 (26%)
07	PBL sessions are unique in modular teaching.	01 (1%)	02 (2%)	09 (10%)	48 (55%)	28 (32%)
08	Involvement in clinical sessions stimulates students learning.	00 (%)	01 (1%)	09 (10%)	46 (52%)	32 (36%)
09	More applied knowledge is delivered.	00 (%)	02 (2%)	11(12.5%)	42 (48%)	33 (37.5%)

Q # 9 with Likert-scale: Parameters of faculties Dis-Satisfaction & negative effect of a modular system:
The mixed response from participating faculties regarding that the detailed discussion is not done in modular teaching. Forty-three (49%) disagreed, 18 (20%) have no idea and 27 (31%) agreed that in a modular system subject details are not discussed or missed. Among all, 42 (48%) participating faculties disagreed with the fact that in modular teaching no or less subject grip is found while 17 (19%) have no idea and 29 (33%) agreed with this point. Additionally, 67 (76%) of the participants agreed that more time and

more resources are required in modular teaching as compared to conventional teaching. We got mixed responses from participating faculties regarding that it is not a cost-effective method. 34 (39%) disagreed, 14 (16%) no idea &40 (45%) agreed to this point. The majority 65 (74%) agreed that modular teaching is a sort of burden on newly entered students while 14 (15%) disagreed with it. And 85 (96%) of the participants agreed that faculty development is needed for the successful running of a modular system.

Table 5: Perception of faculty members about the limitations of modular system (n=88)

S. No:	Questions	Strongly disagree	Disagree	No Effect	Agree	Strongly Agree
10	Detailed discussion is not done.	13(15%)	30 (34%)	18 (20%)	19 (22%)	08 (9%)
11	Scattered knowledge is given to student.	09(10%)	36 (41%)	14 (16%)	19 (22%)	10 (11%)
12	There is no or less subject grip.	12(14%)	30 (34%)	17 (19%)	15 (17%)	14 (16%)

13	More time and more resources are required.	00 (0%)	12 (14%)	09 (10%)	31 (35%)	36 (41%)
14	It is not a cost-effective method.	06 (7%)	28 (32%)	14 (16%)	25 (28%)	15 (17%)
15	Sort of burden on newly entered student.	04(4.5%)	10 (11%)	09 (10%)	23 (26%)	42 (48%)
16	More faculty required.	01 (1%)	04 (4.5%)	03 (3.5%)	36 (41%)	44 (50%)
17	Faculty development needed.	00 (0%)	01 (1%)	02 (2%)	24 (27%)	61 (69%)
18	Continuous training for teachers is required.	01 (1%)	02 (2%)	04 (4.5%)	27 (31%)	54 (61%)
19	Students are more exhausted.	11 (12%)	25 (28%)	20 (23%)	25 (28%)	07 (8%)
20	More exams make students fatigue.	08 (9%)	30 (34%)	23 (26%)	21 (24%)	06 (7%)
21	Students fail to participate in extracurricular activity.	13 (15%)	33 (38%)	23 (26%)	13 (15%)	06 (7%)

Discussion

The actual aim of any curriculum is to make the students competent in their discipline and applicable in medical education whereas the undergraduate curriculum is to provide the basic knowledge and training skills necessary for medical practice.[14-16] Faculty 50% perceived that an integrated curriculum has a good clinical application and the majority 17 (61%) of faculty from SCM had supported this concept. In addition, 38% agreed that modular teaching provides better understanding & clarity of concepts; while 23% agreed that modular teaching is a student-centered approach & there is active students involvement. Integrated curriculum is supported by most the universities and among faculties, there are still doubts & showed the mixed response about the implementation and its ultimate outcomes, therefore some faculties are reluctant to fully adopt this system. A study revealed that most of the senior faculty members are in favor of a mixed method of teaching where both student center and teacher centers along with proper planning and readiness. The main barriers to the adaptation of complete integration are the behavior of faculty members and training.[17]

Regarding weaknesses of modular teaching, 44% of participants stated that modular teaching requires more faculties & their training. The same has been recommended by other educationists, who recommended that the modular approach is a unique teaching method, so teachers should be well trained on how to design and implement modules in a classroom environment.[18] In addition 27% expressed that modular teaching is more resource-intensive; while 18% agreed that the depth of subject knowledge is compromised as it focuses on more common issues/problems. Curriculum integration can be done at the content level, faculty and teaching methods use attempts to unite disciplines and it is difficult to manipulate obstacles, including limited resources. There are mostly faculty's lecture schedules and resistance.[17]

Regarding the opportunities for students in an integrated curriculum is that concepts are cleared with better understanding 32% of faculty agreed, 23% approved that there is the active participation of students and 21% expressed that the students are more clinically oriented. An integrated curriculum can be a solution that holistically achieves the results. Schedule conflicts, limited resources, and resistance from faculty, students, and parents have made it difficult to implement an integrated curriculum.[19] It is further reported by Davis et al that the lack of trained facilitators in conducting PBL sessions. As the number of students increases, faculty, infrastructure, and better planning should increase proportionately. An integrated training module was developed without the use of PBL, which could be easily implemented in any situation.[20] The study showed the majority of the participants agreed (65%) that it is the best system & should be implemented; while 12% agreed that it is a student-centered approach & students become self and lifelong learners. In addition, 11% agreed that in modular teaching there is better understanding & clinical application for students. The expected outcomes of the integrated healthcare curriculum are undoubtedly great but are we overly optimistic.[21]

The majority (84%) of our participants agreed that students get more benefits from modular teaching as compared to conventional teaching. This is the strength of modular teaching and overall participating faculties show their confidence in adopting modular teaching. About 72% of participants agreed that teacher biases are less or nil in modular teaching while 23% said that no such effect exists. It is claimed that

learners will develop critical thinking and problem-solving skills by participating in the learning process.[22] In a study conducted by Fatima et al revealed that 93.4% of students rated modular training as an effective way. They further added that case-based training; small group session and problem-based learning were considered the most preferred method of teaching (97.7%, 97.1%, and 94.85% respectively). It was also useful for identifying course components that needed improvement. Actions can be taken to improve the overall quality and effectiveness of the course in the future.[23] The majority of participants 91% agreed that a modular system activates the students' critical thinking abilities; a point which is ignored in conventional teaching. It is claimed that learners will develop critical thinking and problem-solving skills by participating in the learning process.[22]

Davies et al. characterize lifelong learning as "a continuous support process that energizes and empowers medical students to acquire all the knowledge, attitudes and skills they need throughout their lives and apply them with confidence, creativity, and happiness.[24] In the present study 82% of faculty agreed that in a modular system, students become lifelong learners because they can learn on their own by self-learning/practical skills. Learner-centered approaches such as Problem-Based Learning (PBL) and Team-Based Learning (TBL) are good teaching methods that improve medical students' ability to become lifelong learners and acquire skills such as "teamwork, communication, and real-world knowledge. Medical students develop knowledge, skills, and critical thinking skills to help them deliberately interact with their environment.[25] The same has been narrated in this study where 87% of participants agreed that PBL sessions are unique in modular teaching.

Conclusion

Most study participants showed overall satisfaction with modular teaching due to its many merits & advantages over conventional teaching. Some of the merits of modular teaching are that it has a good clinical application; provides better understanding & clarity of concepts. Overall participants are satisfied because it is a student-centered approach & students become self and lifelong learners; in addition, it decreases the biasness associated with the teacher during teaching and assessment.

Recommendation

The sample size of the study is n=88, so more institutes and larger sample size are recommended for more reliable results. Similarly, the comparison of faculty satisfaction at different institutes can also be done in future studies.

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