

# Teacher's Perspective on the Modular System of Education - A Study on Government Medical College Teachers and Their Views on Educational Systems

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## ABSTRACT

**Objective:** To assess the level of satisfaction about different systems among medical college teachers. To compare their preference among the modular and annular system and to assess percentage of faculty in favor of reverting back to old system.

**Study Design:** Cross sectional study.

**Place and Duration of Study:** This study was conducted at the Department of Community Medicine, SMC, JSMU, Karachi from January to May 2016.

**Materials and Methods:** A study was conducted on a sample of 122 teachers from 3 government medical colleges (DMC, SMC and DIMC). Of these, 65 were male and 57 were female. From DMC 52, SMC 43 and DIMC 27 teachers participated in filling the questionnaire. The sample was taken through Non-Probability Purposive sampling from the three medical colleges. An informed verbal consent was taken from the candidates. Pilot study was conducted to assess the authenticity of the questionnaire. A structured questionnaire was then distributed, got filled, data was entered and analyzed using SPSS version 21, with 95% confidence interval and 0.05 p-value.

**Results:** A total of 122 teachers from 3 government medical colleges (DMC, SMC and DIMC) were asked to fill the questionnaire. From the total teachers 54.7% believed that modular system focused more on theoretical learning while 42.6% said that it focused on practical learning. 72.6% of teachers said that modular system is more stressful compared to 27.04% who disagreed. 51.6% said that the stress affected their teaching and 48.4% said otherwise. 91% teachers said that there was a need that teachers should be trained on how to teach according to the modular system while 9% said there was no need for training the teachers. 62.3% teachers said that the modular system did not allocate enough time to each subject as allotted by PMDC while 37.7% disagreed. 69.3% teachers said that the annual system gives sufficient time to each subject per PMDC guidelines while 30.7% disagreed. 64.8% teachers said that their institute should revert back to annual system of teaching while 35.2% disagreed. 64.8% teachers chose 'annual system' as their preferred system of education while 35.2% opted for the 'modular system'.

**Conclusion:** The study concluded that the teachers of government medical colleges where module system has been implemented would like their institutions to revert back to the 'annual system' of teaching, declaring the latter their preferred system of teaching. They believed that the modular system was more stressful and focuses more on theoretical learning rather than practical learning.

**Key Words:** Modular system, annual system, teaching, teachers perspective, system, medical education

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## INTRODUCTION

The transition of the medical curriculum from a classical didactic and discipline-based approach to integrated PBL has been adopted by many institutions around the globe and it is in process of implementation in Pakistan as well.<sup>1</sup>

Modular system allows students to concentrate on only one course for an entire term. The modular system enhances learning by providing students with intensive and focused time on each topic.<sup>2</sup>

It involves Problem-based learning (PBL) which is a student-centered pedagogy in which students learn about a subject through the experience of problem solving. Students learn both thinking strategies and domain knowledge<sup>3</sup>. Problem-based learning (PBL), an instructional method of hands-on active learning, is centered on the investigation and resolution of simulated real-world problems<sup>4</sup>. Also this new system offers a better learning experience as PBL students were significantly more successful in the knowledge test<sup>5</sup> according to a research spending a lot of academic

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time on developing new material for integrated self-directed learning was the worst part, the transition period with double teaching (which stretched our resources to the limits) was even worse<sup>6</sup>. Centers that have adopted a PBL approach have found improved student motivation and enjoyment, but there has been no convincing evidence of improved learning.<sup>7</sup> According to an article, PBL appears to devalue academic expertise. Students will not achieve the “gold highest ratings in the areas of student interest, clinical preparation, and medical reasoning and its lowest ratings in the teaching of factual knowledge in the basic sciences and efficiency of learning.”<sup>8</sup>

The annular system in contrast was more of a didactic method of teaching. A didactic is a teaching method that follows a consistent scientific approach or educational style to engage the student’s mind<sup>9</sup>. It is often suggested that the traditional didactic lecture is more passive in nature and less effective as a teaching tool. However, a well-organized lecture remains one of the most effective ways to integrate and present information from multiple sources on complex topics<sup>10</sup>. The conventional old teaching system gives the instructor the chance to expose students to unpublished or not readily available material and to allow the instructor to precisely determine the aims, content, organization, pace and direction of a presentation<sup>11</sup>.

According to a study comparing the outcome of the conventional curricula and the problem based curricula it was noted that Students in the PBLC produced extensive elaborations using relevant biomedical information, which was relatively absent from the CC students’ explanations. However, these elaborations were accompanied by a tendency to generate errors. These results have important implications regarding the strengths and weaknesses of the two types of curricula<sup>12</sup>. Our study aims to identify the perception of our teachers towards the transition from the conventional curricula to the new problem based, integrated modular learning, as Faculty perceptions of the educational environment will have a strong bearing on the learning environment of the students.

There are several difficulties in implementing an integrated approach. However, not integrating is detrimental to statistics and research methods teaching, which is of particular concern in the age of evidence-based medicine<sup>14</sup> so here we are trying to find out whether the teaching staff is comfortable with the new ways of teaching?<sup>15</sup>

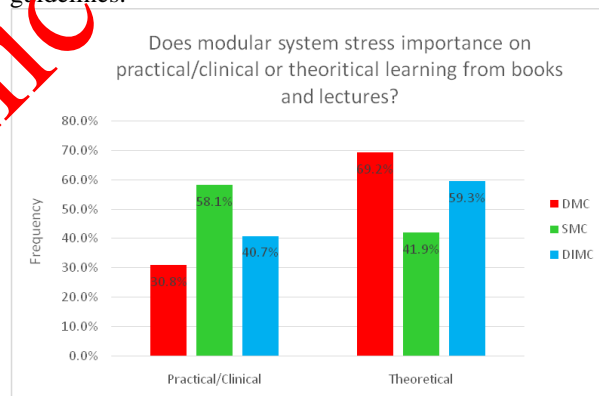
## MATERIALS AND METHODS

A Cross-sectional study was conducted on a sample of 122 teachers from 3 government medical colleges (DMC, SMC and DIMC). Of these, 65 were male and 57 were female. From DMC 52, SMC 43 and DIMC 27 teachers participated in filling the questionnaire. The sample was taken through Non-Probability Purposive

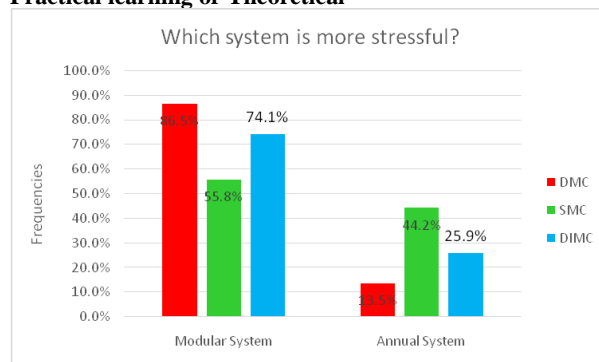
sampling from the 3 medical colleges. The study was carried out within a period of 8 months from January to May 2016. An informed verbal consent was taken from the candidates. Pilot study was conducted to assess the authenticity of the questionnaire. A structured questionnaire was then distributed, got filled, data was entered and analyzed using SPSS version 21, with 95% confidence interval and 0.05 p-value.

## RESULTS

A total of 122 teachers from 3 government medical colleges (DMC, SMC and DIMC) were asked to fill the questionnaire. From the total teachers 54.7% believed that modular system focused more on theoretical learning while 42.6% said that it focused on practical learning. 72.6% of teachers said that modular system is more stressful compared to 27.04% who disagreed. 51.6% said that the stress affected their teaching and 48.4% said otherwise. 91% teachers said that there was a need that teachers should be trained on how to teach according to the modular system while 9% said there was no need for training the teachers. 62.3% teachers said that the modular system did not allocate enough time to each subject as allotted by PMDC while 37.7% disagreed. 69.3% teachers said that the annual system gives sufficient time to each subject per PMDC guidelines.



**Figure No.1. Modular System gives more importance to Practical learning or Theoretical**



**Figure No. 2: System stressful for faculty members**

while 30.7% disagreed. 64.8% teachers said that their institute should revert back to annual system of

teaching while 35.2% disagreed. 64.8% teachers chose 'annual system' as their preferred system of education while 35.2% opted for the 'modular system'.

## DISCUSSION

Practical learning is basically the clinical skills a doctor has, and his approach to treat the same disease in different patients. Practical learning sharpens one's capability and capacity to perform skills, while the theoretical knowledge is only the bookish knowledge which a student learned during his 5 year course of M.B.B.S, it doesn't involve any interaction with the patients nor any practical skills. Practical learning holds quite a lot of importance as a doctor who actually deals with the patients and their lives does he has to be perfect in his clinical skills not just aiming to take high grades during his MBBS course. As per students point of view this comparison between theoretical knowledge and practical skills is very important as he is the one who has to pursue what he has been taught in his carrier afterwards. The students study a lot of modules throughout the course which aim to develop their knowledge, understanding and practical skills in quantitative and qualitative manner. Problem-based learning (PBL), which incorporates principles of adult learning, is an important innovation in medical education. The use of PBL in health professional curricula is becoming more widespread. The curriculum design and the ways of implementing PBL are different among schools<sup>16</sup>.

Upon the data analysis 57.4% of the teachers have this view that modular system just focuses on the bookish knowledge and is not giving emphasis on students practical skills. On the other hand 42.6% of the teachers think that modular system is successful in sharpening the practical skills of the students along with their theoretical knowledge.

According to the data in the table 51.6% teachers agreed that stress affects their teaching.<sup>17</sup> this stress is due to the short period of time they got to cover a lengthy topic. They have to make sure that they cover all the main points regarding that topic and that every student understands it well. In most cases this becomes difficult for them to manage, especially in the modular system because there are a lot of subjects and lengthy topics to cover in a short period of time. As a result, students have to cram in a lot of things or refer to short books which do not clarify most of the concepts. This way, neither the teachers nor the students are satisfied. The imperative role of teachers as guide, mentor, reporter and program director in changing students' attitude by developing, activating, implementing, testing, and refining their ideas as well as making instructional decisions for educational policies cannot be overlooked.<sup>17</sup> The perception of faculty therefore, has to be evaluated in terms of program deficiencies, student's performance, personal learning and obstacles

faced during the implementation of integrated learning strategies.<sup>18</sup>

For our research we went to different teaching faculties of SMC, DMC and DIMC. Our research is done to know about the difficulties teachers have face regarding the newly introduced system of education in our government medical universities i.e., modular system which is being followed since 2009. One of the several problems teachers had to face was their inability to understand and teach the modular system as all the faculty members who participated in our research had learnt under the annual system and have taught annual system till 2009 when modular system was introduced so they had better understanding of annual system. Since the introduction of modular system the teaching faculty was not satisfied with this system because its introduction and implication was sudden and they were not trained for modular system prior to its implication. In other parts of world effective teachers training programs are done to keep the teachers up to date and understand the modular system completely.<sup>19</sup> Still now there is no facility available to train these faculty members that is why the teaching faculty is not satisfied with modular system which is reflected in our results as 91% teachers were not in favor of teaching modular system without being trained on how to teach according to the new curriculum. Since the teachers are not trained according to this system they are unable to deliver their knowledge to students properly.

Each subject holds its equal importance in medical study and all are interlinked to one another, so necessary time should be allocated to each subject<sup>20</sup>. This point is really important as it's a natural practice to allot specific time to each subject being taught in the education systems all over the world, and even not in just medical teaching, rather all walks of teaching. Likewise, the European system of education has also built up a chart for the recommended time period for every subject so that the universities, colleges and schools under it can properly follow that.<sup>21</sup> it is no doubt mandatory for the education systems to abide by these set rules. Therefore we raised this question in our research paper, so that we can get to know that whether a student can hold a solid grip of each subject, whether he/she can retain the bulk of that knowledge given to him and then link his/her previously studied knowledge with what he/she will study in the upcoming years and to finally be able to practice all this during years of his/her medical profession. 37.7% teachers felt that modular system does allocate each subject necessary time<sup>22</sup>. While 62.3% teachers disagreed and answered no to the question. As for students point of view they also feel that modular system focuses on major subjects and minor subjects are left behind. The time allotted by PMDC to each subject is not sufficient in modular system to cover the course outline.

In order to know does the annual system allocate the necessary time to each subject, we access and evaluate the time distribution given to each subject individually in the 5 year course of MBBS, from a teacher's aspect, compare the efficacy of annual system in imparting enough knowledge in the designated time period to each subject being taught. Apart from the teachers' point of view, a student also personally feels that the time allotted in annual system for each subject is enough for each subject and the student can easily reproduce of what he has been taught. Upon the data analysis, (referred to table 1), 69.7 % teachers think that yes the time given in annual system is sufficient for the student to understand each subject to its depth. While 30.3 % teachers feel that no, the time given in annual system for each subject is not enough for grasping the taught knowledge wholly, rather all subjects are taught in a hurry and a student cannot actually succeed in understanding all subjects in the due period of time.<sup>23</sup>

The purpose of our study was to evaluate which system of medical education is preferred by the teaching staff of medical universities which have implemented both modular and annual system of education in the past, based on their own teaching experiences. Institutions that follow modular system, implement a teaching methodology in which clinical and more practical subjects are started from the initial years. This methodology aims at introducing practical approach from the beginning to improve the understanding of clinical knowledge and concepts. But this is done at the behest of further increase in study load, while the traditional burdens associated with notorious medical education system are still there. The situation is further exacerbated due to inappropriate integration of the subjects and lack of management and planning.<sup>24</sup> Hence, taking into account the stress of teaching, the time factor, and the training required to perform well under a newer system of education, our questionnaire included the option to revert back to the previous method of teaching. 64.8% of the teachers who filled the questionnaires opted to revert back to the annual system, while 35.2% wished to continue with the current modular system.<sup>25</sup>

In order to implement and practice an effective system of education in medical schools amongst modular and annual systems, teachers' perspective is the key. Teachers with their knowledge and plenty of experience in teaching, in both the systems of education, are well aware of benefits and drawbacks of these systems. Knowing teachers' preferred system of education is significant because it is their job to impart knowledge, to cover the whole syllabus in designated period of time and since both these systems follow a completely different method of teaching, and its teacher's responsibility to make students accomplished and capable of practicing the knowledge in the field. In our research on data analysis we observed that 35.2% of

teachers' preferred system of teaching is modular while the rest i.e., 64.8% favored annual system.<sup>26</sup>

Adopting a modular approach can disrupt the provision of a coherent and developmental course. In modular system, courses examined in stages, with the ability to take exams an unlimited number of times is unfair to those who have to take a annual exam and work hard to achieve a good result the first time, as they haven't had the same opportunity to simply re-sit if they are unhappy with their grade. So the return to a linear structure will help reduce the dangers of over-assessment of young people, give more time to teachers for teaching and increase the opportunities to teach whole subjects in a joined up way rather than in bite-sized chunks because the deadlines on units can limit a teacher's ability to teach important topics in the way that he or she would choose.<sup>27</sup>

Implementing PBL in schools and Universities is a demanding process that requires resources, a lot of planning and organization.<sup>28</sup> Prepare faculty members for change, establish a new curriculum committee and working group designing the new PBL curriculum and defining educational outcomes.<sup>29</sup> Seeking advice from experts in PBL. Planning, Organizing and Managing Training PBL facilitators and defining the objectives of a facilitator introducing Students to the PBL Program using 3-learning to support the delivery of the PBL program, changing the assessment to suit the PBL curriculum.<sup>30</sup> Encouraging feedback from students and teaching staff. Managing learning resources and facilities that support self-directed learning and continuing evaluation and making changes.<sup>31</sup> although difficult the changes could go a long way in improving the quality of medical education in Pakistan and producing efficient doctors for the country.

## CONCLUSION

The study concluded that the teachers of government medical colleges where module system has been implemented would like their institutions to revert back to the 'annual system' of teaching, declaring the latter their preferred system of teaching. They believed that the modular system was more stressful and focuses more on theoretical learning rather than practical learning.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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