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Research Article

**EXPLORING THE PERCEPTION OF MEDICAL ALUMNI
REGARDING INTEGRATED VS NON-INTEGRATED SYSTEM
OF EDUCATION: A CROSS SECTIONAL SURVEY**¹Khalid Basheer, ²Muzayyian Fatima, ³Dr. Muhammad Faaiz Sajjad¹Bahawal Victoria Hospital Bahawalpur²Mayo Hospital³Sheikh Zayed Hospital Rahim Yar Khan**Abstract:**

Background: Memorization without any concept is the major impasse of traditional educational system in Pakistan. The extensive syllabus lacking concepts, pressure of assessments and forceful turnout in lectures divert the focus of medical students which leads to misconception and incompetence in clinical field. Aim of this study was to assess the perception of medical graduates/undergraduates regarding flaws and beneficence of non-integrated and integrated system respectively.

Methodology: This cross-sectional study was conducted at CMH & LMDC from August, 2015 to September, 2015. The sample size was 225, non probability convenient sampling method was used. A modified version of questionnaire tailored from Usman et al and Farida et al was used to collect data online through Google forms which was sent to potential candidates to more than 20 medical colleges of Punjab, Pakistan. Five (5 point) Likert scale and SPSS v22 was used to assess the responses.

Results: Mean age of the respondents was 22(\pm 1.83). Only a small number (15.3%) said that they are satisfied with current system of education while 18.9% were of the view that current system is total failure. Majority (77.5 %) said they attend lectures for the sake of attendance similarly major proportion (88.3%) agreed that clinical rotations are better than lecturers. Regarding usefulness of the PBL system, majority (79.1%) were in favor of its implementation especially respondents who belong from Government medical institutes.

Conclusion: It is the indispensability to implement integrated system to meet up the rising standards of medical education keeping in view the assessed positive response among medical graduates for the system which will not only make collaboration more effective but also increase accessibility and improve approach for learning medicine.

Key words: Traditional system, Medical education, Problem based learning, Integrated Learning system.

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INTRODUCTION:

The field of medicine is rapidly advancing. In order to cope up with the advancements the curricula in medical schools around the world are evolving. Their prime objective is to produce graduates with strong core concepts and enhanced inquisitive skills enabling them to deal with the enormous clinical work. Integrated curriculum has gained popularity for this concern(1).

Integrated curriculum is a concept in which the basic and clinical knowledge is connected together unlike traditional system in which there are barriers between basic and clinical sciences and their respective specialties too. According to Henry P O'connel, Medical curriculum is less fragmented and it promotes a cross discipline approach to diseases. This enables students to learn in context, and enhances their problem solving skills. They are better able to apply their knowledge. This system puts into background the irrelevant information(2). The fact that the students are able to apply their knowledge imparts more enthusiasm and interest in them.

In Pakistan Majority of medical colleges are following the traditional non integrated system with a couple of exceptions. The subjects are taught separately in a conventional style lectures. There is a trend of cramming up knowledge without building concepts. This hinders their ability to apply their knowledge.

The medical graduates produced by such system have reduced problem solving ability. It does not bring about the best out of students. With this traditional outdated curriculum we are producing medical graduates with outdated knowledge skills and attitudes as Dr Mamoon Nasim rightly said (3). The frustration seen among medical graduates is justified; they spend years in a medical school working hard up to the requirements of this system only to find out as they graduate, that their knowledge does not match the requirements of the profession(3).

Cognitive psychology shows that gaining knowledge and skills in the context in which they will be used leads to better recall and application. Applying this finding in medical teaching and molding our curricula accordingly will produce graduates with up-to-date knowledge, better retention and increased motivation to learn. It will develop cognitive and problem solving skills for self directed lifelong learning and competence to analyze and interpret clinical findings and apply them in diagnosis and

treatment(3). Integrated system of curricula is the solution to all these needs and issues.

Since its development in 1960 Problem Based Learning has been the most influential innovation in medical education. Essentially, problem based learning is a small group teaching method that combines the acquisition of knowledge with the development of constructive skills and attitudes. There is a rising trend of PBL in Pakistan as well as a few medical schools in Pakistan are turning towards problem-Based learning(4).

Many well-known experts in the field of learning and instruction have been stressing over the point that acquiring thinking and problem-solving skills is a primary objective of education. Allan (1996) as well as Bowden and Marton (1998) confirm this by describing the aims of higher education in terms of desired learning outcomes such as subject-based, personal transferable and generic academic outcomes. With the rapid ongoing development in this competitive era the graduates are expected to have not only the knowledge base but also the skills to solve problems, analyse, synthesise, coach, lead, present and evaluate.

Conventional educational practices are not able to develop these prerequisites of professional expertise. Research results (Mandl, Gruber & Renkl, 1996) indicate the problem that students often acquire inert knowledge in traditional forms of instruction. Students have the knowledge but they cannot use it to solve complex problems of daily working life. As Tynjälä (1999) points out, the important challenge for today's higher education is the development and the implementation of instructional practices that integrate domain-specific knowledge with the personal-transferable and generic academic skills(5). Since PBL learning styles are different from those of traditional, didactic, lecture-based courses, there is a need to take feedback from the students and to develop the tools for analysis and assessment of this strategy. Mc Gaghie defined feedback as "information that gives learners knowledge of the results of their study and clinical work"(5). Through feedback, individuals recognize areas of deficiency in their knowledge and skills and seek a course of action to rectify them(6). Our targeted population of students are learning in a system which delivers knowledge through a combination of PBL with conventional lectures. In order to determine the perception of students regarding pros and cons of PBL and Conventional non integrated system of education an evaluation was carried out. So the rationale of our study is to find out the flaws in the

present system and whether the students prefer integrated system or not. Objectives of our study being to assess the perception of medical students regarding integrated verses non- integrated system and to analyse the students feedback regarding integrated curriculum

METHODOLOGY:

This cross-sectional study was conducted at CMH & LMDC from August, 2015 to September, 2015. 90% of the respondents were from MBBS and BDS and 10% were house officers and PG trainees. Data was collected from more than 20 medical colleges of Punjab. The sample size was 225 calculated via WHO sample size calculator, Non-probability convenient sampling method was used. A modified version of questionnaire tailored from Usman et al and Farida et al (11) was used to collect data online through Google forms which was sent to potential candidates through email and social networking sites. In Questionnaire making Dr Rehana Rehman from Aga Khan Medical University helped out. 5 point Likert scale was used which varies from strongly disagree to strongly agree. SPSS v22 was used to assess the responses.

RESULTS:

Of the 223 students, 79 (35.5%) were male and 142(63.7%) were female. 75% had urban, 15.7% semi-urban and 8.1% belonged to rural back-ground. 41.7% belonged to Government institutes and 57% were from private medical colleges. 92 % were studying on local seats, 4.9% on foreign and 1.3% on overseas quotas. Data was equally distributed across all the classes, house officers and post-graduate trainees. 87% were single, 6.8% in a relationship or

engaged and 3.7% were married. 52% were day scholar 48% were hostilities.

When asked about whether traditional system of education is wastage of time 75 (33.5%) did not have any say and 98 (44%) agreed that current system is of no use while remaining disagreed. When asked about the current system of education regarding its helpfulness related to research 42.2% agreed and 29.6% strongly agreed that traditional is not helpful at all. 77% respondents said they attend lectures just for the sake of attendance, 11% disagreed to this and 9.4% were neutral. Respondents had mixed views about the statement "Lectures destroy creativity" 36% disagreed, 22.9% did not have any say and 39% agreed to the notion that lectures destroy artistic approach of the students. Quite amazingly, 62% disagreed to the statement "lectures are irrelevant to the knowledge to be learnt", 18.2% were neutral and only 14% agreed with the statement. When asked about the usefulness of self study over lectures mostly 46% agreed that self study is more helpful as compared to 27% who disagreed and remaining had no opinion about this.

Similarly when asked about whether lectures helped in thinking critically 35% were of the view that they are of no use while only 27% disagreed. 89% respondents agreed that clinical rotations are much better than lectures because of greater exposure to patients and clinical cases. Similarly about 60% were of the view that labs are way better than lectures because of interactive study sessions. Mean difference in responses according to institutes shows students from government institute had more negative views about the traditional system. (Table 1)

Statements	Category of Colleges		
	Govt. Mean (\pm S.D)	Private Mean (\pm S.D)	Total Mean (\pm S.D)
Traditional system of education is wastage of time	3.42 (\pm 1.09)	3.30 (\pm 1.01)	3.35 (\pm 1.04)
Traditional system of education is not helpful for research	4.0 (\pm .94)	3.8 (\pm 1.04)	3.9 (\pm 1.00)
Lectures are attended just for the sake of attendance	4.2 (\pm 1.02)	3.9 (\pm 1.1)	4.11 (\pm 1.08)
Lectures are irrelevant to the knowledge which is to be learnt	2.4 (\pm .99)	2.3 (\pm .99)	2.3 (\pm .99)
Self study is helpful better than lectures	3.3 (\pm 1.1)	3.2 (\pm 1.0)	3.3 (\pm 1.1)
Labs are better than lectures because of interactive study	3.7 (\pm .97)	3.5 (\pm 1.02)	3.6 (\pm 1.00)
Teachers do not teach effectively in class room lectures	3.2 (\pm 1.06)	3.0 (\pm 1.1)	3.1 (\pm 1.1)
Teachers in clinical years are more competent than non clinical teachers	3.7 (\pm 1.08)	3.3 (\pm 1.1)	3.4 (\pm 1.1)

Table 1 Difference in means of perception regarding integrated Vs traditional system of education according to government and private institutions

When asked about the performance of teachers in the class room, respondents had different views about 30% disagreed that they do not teach effectively, 29.1% did not have any opinion and 37% agreed that teachers do not teach efficiently in the class room lectures. Similarly when inquired about the competency of teachers in clinical years around 53% agreed that they are more competent in clinical years as compared to teachers of basic health sciences (anatomy, physiology and biochemistry), 25% did not have any say and 18% disagreed with this notion.

Surprisingly, majority 77% said traditional system of education should be replaced with problem based learning or integrated system of education. Likewise about 90% respondents said that PBL strategy seems to be interesting as compared to the conventional lectures. 81.2% of the respondents are of the view that PBL stimulates the undergraduates in doing research. There was significant difference in the means of responses studying on different seats. (Table 2)

Table 2: Perception of respondents regarding Integrated/PBL system studying on local, foreign or overseas seats.

Seat (on which student is currently enrolled)		PBL stimulates in doing research	PBL increases ability to manage time effectively	PBL improves decision making skills	PBL Helps to convert from passive to active life long learner	proper training of PBL should be given before its implementation	This teaching tool will help you to perform better in university exams
local	Mean	3.77	3.8	4.1	4.1	4.2	3.8
	Std. Deviation	±.59	±.98	±.69	±.71	±.71	±.78
foreign	Mean	3.9	3.9	4.3	4.0	4.1	4.0
	Std. Deviation	±.30	±.83	±.80	±.94	±.75	±.83
over seas	Mean	4.0	4.0	4.3	4.6	4.3	4.3
	Std. Deviation	±.00	±1.0	±.57	±.57	±.57	±.57
Total	Mean	3.7	3.8	4.1	4.1	4.2	3.9
	Std. Deviation	±.57	±.97	±.69	±.72	±.71	±.78

About 70% said that PBL increases one's ability to manage time effectively similarly, 86% said that PBL might help in improving decision making skills. A large proportion of respondents (82%) were of the opinion that PBL helps to convert from passive to active life long learner. As PBL is becoming one of the leading strategies to teach at undergraduates, 88% respondents were of the view that proper training should be given before its complete implementation. 77% thought that implementation of this teaching tool will definitely help them to perform better in university exams while 18.8% neither disagreed nor agreed with this statement.

When asked a general question that "Are you satisfied with the current system of education" majority 64.1% said no and 18.2% even said that current system is a total failure. When asked "If you have option to study in integrated system of education, will you study?" 82.5% said yes, they will definitely like to study in such system.

DISCUSSION:

Medical education in Pakistan is rapidly changing. Majority of the private medical institutions are being engaged into integrated modular system of learning. Whereas in Government medical colleges still didactic lecture system is more or less being the ongoing system. According to our study majority of

the students who were in favor of integrated system belonged to government and foreign background. As this method is innovative, student centered, problem and community based. There are different strategies for transformation from a complete traditional model to a more innovative SPICE model. These transformations are a blend of horizontal and vertical integration between the different disciplines; it helps to avoid unnecessary repetition of the subject and encourages the students to effectively manage time throughout the five year of education to enhance process of learning.

In this study students showed positive response towards the integrated system, these results are similar to a study conducted by Khan H et al (6). This study was an effort to see the perception of medical students who agreed that integrated modular system increased their ability to solve the problem, and turned them from a passive to an active learner which is in line with another study by Mausum et al (7).

In a study done by Kalpana Kumari, Vijaya v. Mysorekar and Seema Raja medical students found integrated modular system (ILS) more useful and interesting and agreed that it improves their performance in exams which is in concordance with our results. Another study by Sarnishtha Ghosh, Himanshu Pandya revealed that from students point

of view ILS is very useful in acquiring knowledge, which is concordance with our study(8).

Majority of the students in our study were in the opinion that traditional way should be replaced by student-centered, problem based learning method, as it is conducive for research which demands critical thinking. This system is best for acquiring clinical skills and problem solving attitudes which is expected from medical graduates once they are passed and pursue for their clinical training (9).

CONCLUSION:

It is need of the hour to implement integrated system based on assessed positive response and perception of medical graduates and under graduates. This system will meet up the rising standards of medical education and facilitate our students and physicians to compete in world arena, by saving their time and energy and will provide better insight into basic and clinical subjects. Before implementing the integrated system proper guidance should be given to the faculty and students. There should be focused group discussions regarding this system for better understanding of perception of undergraduates. Action research should be planned during course of implementing this system to get student's feedback so that we can improvise it efficiently and effectively.

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