

# EVALUATION OF MBBS CURRICULUM USING SPICES MODEL

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## ABSTRACT

**Objective:** To evaluate medical school curriculum using spices model and to bring it in line with the modern needs.

**Material and Methods:** The study was conducted in Khyber Medical College and Khyber Medical University, Peshawar January 2015 to November 2015. It was a descriptive cross sectional study, using convenient non-probability sampling technique. Fifty faculty member of Khyber Medical College and Khyber Medical University were provided a modified questionnaire considering SPICES model of education, available in workshop/CME program.

**Results:** Using the SPICES model results of the study revealed that presently we are following discipline based curriculum which is old and traditional methods of learning and urgent modification is needed in this regard.

**Conclusion:** SPICES model will improve the teaching standards of under graduate students and make them at par with the international standard.

**Key Words:** SPICES model, evaluation, capacity building, curriculum, MBBS.

## INTRODUCTION

We need to define the roles of medical teachers in medical colleges to prepare them for complex task, presently we are largely following discipline based curriculum which needs to be urgently modified to modular system using SPICES model or hardens steps for integrated curriculum development to cater for the needs of the day. The term Evaluation is determination of subject's merit, worth and significance in a systematic way using governed criteria and standards. It helps to assist an organization, program, project or any other intervention or initiative to assess any aim, concept, or any alternative to help in decision-making<sup>1</sup>. The main purpose of evaluation is not only to gain insight into prior or existing initiatives but also to enable feedback and assist in the identification of future<sup>2</sup>. Understanding the differences between measurement, assessment, and evaluation is prior to the knowledge and is a base of professional teachers and also for effective teaching. The slight difference in these terms is as under.

Assessment is a process by which information is obtained relative to some known objective or goal. Assessment is a broad term that includes testing. A test is a special form of assessment. Measurement: refers to the process by which the attributes or dimensions of

some physical object are determined. One exception seems to be in the use of the word measure in determining the IQ of a person. Evaluation is most complex and least understood, Inherent in the idea of evaluation is "value." When we evaluate, we are engaging in some process that is designed to provide information which will help us to make judgment about a given situation. Evaluation process requires information about the situation in question. When we evaluate, we are saying that the process will yield information regarding the worthiness, appropriateness, goodness, validity, legality, etc., of something for which a reliable measurement or assessment has been made.<sup>3</sup>

About 100 years ago studies were carried out on education of health professionals. These studies pointed out poor quality and standards of education in all fields of healthcare including medicine, public health and nursing care. The reports of these studies created far reaching effects on the healthcare system of North America<sup>4</sup>. In 21st century Global independent commission on education of health professionals highlighted healthcare and educational issues stating that noticeable inequalities persist both within and between the countries. At the same time health security of people around the globe is at a threat due to new challenges in form of new infections, environmental health issues and behavioral risks. Professional education has not been equipped to face these challenges mainly due to static type of curricula which as result produces ill-equipped graduates. Different studies carried out in 21st century pointed out the challenges faced by health professionals education which range from curriculum design,

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teaching and learning methods, assessment, faculty development with addition of some new issues such as internationalization of health professional education, digitalization, professionalization and social accountability of the health institutes<sup>6</sup>.

Pakistan became independent country in 1947, at that time there was only one fully functional medical college in Lahore and two partly functional medical colleges in Karachi and Dacca to serve 72 million population. In 60s another nine colleges started working in public sector<sup>7</sup>, later on many medical colleges were established in public sector while Agha Khan Medical College was the only private college in 80s, in 90s many new colleges were established more in private as compared to public sector, as of now these colleges give coverage to around 182 million population<sup>8</sup>. with the advent of new colleges challenges to the quality and regulation increased these problems exist both at under-graduate, postgraduate and continuing professional education. In Pakistan medical education was not a known entity it started recently under the leadership of Khyber Medical University, there is no proper Infrastructure or department for medical education until now. After the introduction of this program by the Khyber medical university it is realized that there are challenges in changing the traditional teacher-centered pedagogical system to the one that is student and community-centered.

This study was done with an objective to evaluate the MBBS curriculum by using the spice model while the rationale was to bring the existing medical curriculum in line with modern needs so as to make it student centered, problem based and incorporate the other components of SPICES model in order to make integrated and modular system curriculum. The SPICES model was used to carry out the study as this is basically a model for curriculum evaluation rather than curriculum development. This model describes six strategies relating to curriculum in medical schools.<sup>9</sup>

## MATERIAL AND METHODS

The study design selected was a descriptive cross sectional study using convenient non-probability sampling technique. Faculty member of Khyber Medical College and Khyber Medical University available in workshop/CME program were used as sample target population, the total number of participants was 40. All the persons taken as sample were experienced faculty members having experience of more than three years in medical education field and were actively involved in teaching at their respective institutes, while those faculty members who are not actively involved in teaching like registrars and medical officers posted at wards were excluded from the study. Data was collected through a modified questionnaire after being pretested in medical college faculty members, mistakes and errors were rectified after the pretesting. Data was finally analyzed using SPSS version 16.

## RESULTS

In our study of 50 participants were included.

Evaluation of mbbs curriculum using SPICES model was done and 3% of teachers used this model and it was a student centered teaching where students took more responsibility of learning. None of the participants used study guide and adaptive curriculum while using problem based learning, about 30% of participants are using it. Twenty percent used task based learning after 3rd year in ward teachings. The students were not determined about learning outcomes and objectives. The integrated curriculum was used by 20% which was disciplined. The hospital based curriculum was seen in 20% as compared

**Table 1: Comparison of SPICES and Traditional Approach**

SPICES	Traditional Approach
Student centered teaching Student takes more responsibility of learning	Teacher centered approach Teacher is the key figure emphasis is on formal lecture or laboratory
Problem based learning Based on problem solving to develop a usable body of integrated & problem solving	Information gathering learning that stresses the acquisition of facts concepts & principles
Integrated curricula Integration is the organization of teaching matter to inter-relate subjects taught in different academic courses or departments	Discipline based curricula centers around focus on classical course work, such as anatomy or physiology, such as anatomy or physiology, with clinical care coming later in the program.
Community based learning Though this relates more to medical education than chiropractic education	Hospital based learning focuses teaching within the main teaching hospital, while community-based education allows students to receive their training in a community setting.
Elective with a core give students the opportunity to select subjects or projects of their own choosing	Uniform electives standard program all the courses have been prescribed and all students must pass through them with little chance to find subjects of their own choosing.
Systematic curricula a program is designed for all students so that the experiences for their training are therefore covered	Apprenticeship approach The traditional medical approach involved apprenticeship training where a student trainee would be "bonded" to a "master" and acquire skills by working for him

to community based. Two percent of the participants were using a standard programme and about 30% used an apprenticeship approach. The comparison species and traditional approach is shown in Table 1.

## DISCUSSION

The main aim of educational institutes is to provide quality education to their graduates in such a way that they can apply their knowledge and skills to the profession in an efficient way. Therefore the active learning strategies may be more beneficial than the traditional teaching methods. Active learning strategies encourage critical thinking and improve problem solving and decision making skills among the students. This study signifies the need for designing material that is relevant to the local educational environment and needs of the students and teachers, these findings are in consistent with another study<sup>10</sup>. The study findings suggest that the traditional methods are still used in medical schools and to bring change in the existing system needs strong motivation and capability from the faculty side in addition capacity building of the teachers is needed to make the understand different levels of integration and move them on to level-9 from level-2 of Hardens integration model, same type of suggestions were made in a study conducted by Irby DM.<sup>12</sup> Furthermore there is strong need to change the old behavior and introduce new techniques of integrated curriculum, community and hospital based education with electives as a core from the very start of medical school education. The analytic plan as a result of this study is that presently we are largely following discipline based curriculum which needs to be urgently modified to modular system using SPICES model or Hardens steps for integrated curriculum development to cater for the needs of the day.

## CONCLUSION

SPICES model will improve the standards of teaching for under graduate students.

## RECOMMENDATIONS

The role of faculty members in medical schools

has extended beyond the old traditional boundaries of teaching, new ideas and methods need urgent implementation, this can be done through capacity building of the staff at medical schools & concerted efforts should be put in to improve from 2nd step of awareness to 9th step of multidisciplinary of Hardens ladder so that the education system could be made compatible with international standards.

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### AUTHOR'S CONTRIBUTION

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

<b>Ayub U:</b>	Main idea and concept.
<b>Ayub R:</b>	Data collection.
<b>Ayub JU:</b>	Bibliography.
<b>Khan AR:</b>	Critical review.
<b>Ahsan J:</b>	Literature review and statistics.

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