



## COMPETENCY BASED MEDICAL EDUCATION AND AYURVED

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**ABSTRACT**

Competency based medical education offers flexible, lifelong learning with knowledge and skills through continuous learning process. Competency based medical education is an approach to produce physician "fit to practice" rather than students "fit to pass exams". The fundamentals of Competency based medical education are to produce health professionals who can practice medicine at a defined level of proficiency, in accordance with local conditions, to meet local needs. The curriculum of the medical educational courses should allow the students to get knowledge, which will build the confidence among them to practice. The teachers have to adopt new methods of teaching which are offered the learners evidence-based learning. In present scenario, education in Ayurveda needs to be redesigned on the competency framework which will define attributes of an Ayurvedic Physician competent to serve the society.

**KEYWORDS :** Competency, Competency Based education, Ayurveda, Education

**INTRODUCTION:**

Competency based medical education is a student centric, active and lifelong learning experience that incorporates feedback between the teacher and the learner to fulfill the desired competency outcomes. The design of a Competency based medical education system can be approached using following steps:

1. Identify the desire outcome
2. Define the level of performance for each competency
3. Develop a framework for assessing competencies
4. Evaluate the program on a continuous basis to be sure that the desired outcomes are being achieved.

**Identify the desire outcome:**

The desire outcome of any medical course is to produce health professionals who can practice medicine at a defined level of proficiency, in accordance with local conditions, to meet local needs. The main aim of medical education is, "recall of knowledge" i.e. the knowledge that the health professional is having through the education should be get recalled when the situation demands. The broad outcome for medical graduates should be, doctor as a scholar, as a scientist, as a practitioner, and as a researcher.

**Defining the level of performance for each competency:**

Progress of implementation of Competency based education should be monitored at different level of the course. There are major 5 performance levels namely novice, advanced beginner, competence, proficiency and expertise. Within the curricular framework of medical education these 5 performance levels can be monitored in following ways:

1. **Novice:** Able to talk with patients so as to take basic medical history.
2. **Advance beginner:** Able to establish rapport with the patient and take a medical history for a diagnosis. Able to counsel the patient for health practice such as diet, hygiene.
3. **Competence:** In addition to above, able to take a history of delicate personal issues and makes a provisional

diagnosis based on history. Able to counsel for taking informed consent for surgeries and procedures.

4. **Proficiency:** In addition to above, able to counsel patient and care givers for a newly made diagnosis, diagnosis of serious illness and for seriously ill patients.

After the achievement of proficiency level the student can act independently and take responsibility for his/her performance.

**Develop a framework for assessing competencies:**

In Competency based medical education the outcome is expressed in term of competencies. Curriculum of medical education is distinguished between the terms 'competence' (meaning 'able to do') and 'performance' (meaning 'actually does'). Competency assessment shows, are the students able to achieve the levels of competencies and Performance assessment shows, are the students are really performed at different levels successfully or not. So, performance assessments provides more authentic picture of students functionality in real clinical settings, while competence can be assessed in examination setting using simulations and with tools like Objective structured clinical examinations.

**Evaluate the program on a continuous basis to be sure that the desired outcomes are being achieved. :**

Evaluation of the Competency based medical education program is depending upon the early and effective feedback. The feedback should be developed in such a way that it reflects the achievement of the competency of each level. Feedback is the most important determinant of learning progression.

In Competency based medical education, there are six domains of core competencies:

1. Patient care
2. Medical knowledge
3. Professionalism
4. Interpersonal and communication skills

5. Practice-based learning and improvement
6. Systems – based practice

To achieve all of the core competencies we have to design curriculum in such a way that it will give importance to these domains.

#### **Ayurveda and Competency based medical education:**

Ayurveda is a science of life; its basic principals are valid even today. Ayurveda is person centered, which deals with healthy lifestyle, health promotions and substance, disease prevention, diagnosis and treatment. Ayurveda also offered detailed guidelines about food, nutrition, and diet. The essence of any science is a continuous search for new knowledge through research, development and newer applications. In present time the climatic conditions, nature of plants, animals, and microbes have changed. Human lifestyle, behavior is also getting changed. Without any modification, the classical Ayurveda cannot be implemented in present time. Continuous research on quality, efficacy, safety of drug, their dosage is needed. Critical analysis of clinical practice is necessary. Systemic documentation and proper use of data should be adopted. During last several centuries heritage pride and past glory based emotional attitude seem to be predominant among practitioners of Ayurved against evidence based search of scientific research. We need to recognize that emotions, experiences and evidence are not mutually exclusive. A well designed rigorous scientific research on medicines and therapeutic practices of Ayurveda is necessary.

While teaching Ayurveda our teachers have to adopt the methods which are student centric. Being a teacher we should not consider that the Sanskrit Scholars are the only custodians of knowledge and practice of Ayurveda. Competency based medical education of Ayurveda is required to provide confidence among the students of Ayurveda to serve society as a good Ayurved practitioner or researcher.

#### **METHODS:**

For the implementation of Competency based medical education, we have to reframe our teaching methods. Student centric methods should be implemented for teaching. Teachers should serve students of different backgrounds and abilities, through effective teaching-learning process. Interactive instructional techniques that engage students in higher order thinking and investigation, through the use of interviews, focused group discussions, debates, projects, presentations, experiments, practicum, internship. To achieve all of the core competencies we have to design curriculum in such a way that it will focus on outcomes of learning rather than the process of teaching; emphasizes demonstration of abilities in addition to knowledge; de-emphasizes time-based training and seeks to promote student centered methods. Competency based design in medical education has been the focus of much of the literature on curriculum design in medical and professions education. The process of Competency based curriculum design has to follow following process:

1. Development or identification of competencies
2. Organizing competencies into themes
3. Organizing themes into courses
4. Organizing courses into a curriculum
5. Curriculum review/ evaluation
6. Ongoing program evaluation

For implementation of Competency base curriculum we have to follow the following process:

#### **1. Professional Foundation:**

- For good professional foundation we have to follow, following key points
- Interdisciplinary/ interprofessional collaboration

- Collaborate with peer to achieve academic goals
- Adaptability of new concepts
- Establish and maintain professional credibility
- Demonstrate clinical competence
- Communicate effectively
- Remain accountable for actions
- Seek faculty development opportunities to improve educational practice

#### **2. Working with students:**

- Demonstrate respect of each learner
- Invest in each learner's growth and skill development
- Demonstrate sensitivity and responsiveness to learner diversity
- Manage an environment that encourage learning and performance
- Recognize learner in distress and provide appropriate resource to assist
- Aware of challenges on learners that might affect their growth

#### **3. Planning and preparation:**

- Plan instructional methods and materials
- Utilize medical education resources to plan student centered courses and spaces
- Prepare for instruction
- Provide learner with graduated responsibility based on their abilities
- Draw upon multiple levels of knowledge
- Provide resources for additional skills development for learners
- Using appropriate teaching strategies for different levels of learners
- Design and implement sound, sustainable educational program

#### **4. Instructional Methods and strategies:**

- Use media and technology to enhance learning and performance
- Demonstrate effective facilitation skills
- Provide clarification and feedback
- Demonstrate effective presentation skills
- Possess a broad collection of teaching methods and scripts
- Stimulate and sustain learner motivation and engagement
- Promote retention of knowledge and skills
- Inspire learners to excellence in their field of expertise through modeling
- Demonstrate teaching competence
- Promote transfer of knowledge and skills
- Demonstrate teaching at bedside competence
- Facilitate learner in practicing high-quality, compassionate patient care
- Demonstrate effective questioning skills
- Modeling good, professional behavior including evidence-based patient care

#### **5. Assessment and Evaluation:**

- Assess learning and performance
- Evaluate instructional effectiveness
- Actively seek feedback about the quality and effectiveness of teacher's own teaching

#### **6. Evidence based practice:**

- Teach learner to apply the knowledge needed for effective patient care
- Utilize scholarly and practical approaches in program evaluation

To support the above said processes Student centric teaching methods should be adopted.

Student centric teaching methods:

### 1. Experiential learning:

Process of learning through experience. Hands-on learning Requires self-initiative, an "intention to learn" and an "active phase of learning".

Examples : Internship, Field trips, Field research, Service learning projects, Clinics , Experiences shared by consultants

### 2. Integrated/ interdisciplinary learning :

Learner gathers, explores, refines and present the information about topic they want to investigate without subject barriers. Encourages the students for critical thinking, creative problem solving attitude.

Examples: Inter-departmental projects given to students

### 3. Participatory learning:

Students think for themselves and actively contribute to teaching and learning.

Examples: Community surveys, Brain storming, Field visits and excursions, Puzzles, Memory games, Puppet shows, Skits or play, Interview

### 4. Problem based learning (PBL) :

Learn about a subject through experience of solving a problem. PBL does not focus on problem solving with a definite solution but development of skills and attributes. Develops critical appraisal, literature retrieval and ongoing learning

Example : Scenario based problem

### 5. Self directed learning:

Students with the teacher's guidance, decide what and how they will learn. Students take charge of their learning. Ask 5 W and 1 H questions to a concept.

### 6. Patient centric approach:

Listening to, informing and involving the patient in their care. Providing care that is respectful of and responsive to, individual patient preferences, needs and values

### 7. Evidence based learning:

Describes a class of approaches, processes, and strategies for learning outcome, evidence that learning has occurred, effortful strategies undertaken by students and teachers e.g. 2 notebooks: 1 for class work and 1 for homework

### 8. Learning in the humanities:

In-service courses for teachers on subjects with pan-curricular Import and scope such as Democracy and Citizenship Education

Curricula can be divided with respect to human values, environmental values, ethical and moral concerns.

### 9. Project based learning:

Dynamic classroom approach in which student acquires a deeper knowledge through active exploration of real-world challenges and problems. Student learns by working on a subject for an extended period to investigate and respond to a complex problem. It is active and enquiry based learning.

### 10. Role play:

Allows student realistic situations by interacting with other people in order to develop experience. Active learning, encourage creativity and imagination, develop social and emotional skills

### Competencies for Ayurved Education:

While teaching Ayurveda, first we have to decide the

competencies for each level.

1. Novice: Ist year and IInd BAMS students should included in this level. These students should know the fundamentals of Ayurveda i.e Panchabouthik, Tridosha, Triguna, Trimala, Saptapadharth, Garbhotpatti, Prakruti, Pramanas, Nidan panchaka, Rogotpatti(Pathology), Diseases, Dravyaguna And Rasaoushadhi. They should able to talk with patients so as to take basic medical history. Able to make differential diagnosis and can suggest patients about investigation.
2. Advance beginner: IIIrd year BAMS students should included in this level. These students should know about the diseases of Stiroga and prasutitantra (Gynecology), Balroga (Pediatrics), Agad tantra (Toxicology & medical jurisprudence), knowledge about Swasthavritta. Able to establish rapport with the patient and take a medical history for a diagnosis. Able to counsel the patient for health practice such as diet, hygiene.
3. Competence: IVth year BAMS, Internship students should included in this level. These students should know about Shalya(Surgery), Shalakys tantra(ENT & Ophthalm), Panchakarma. Able to perform Panchakarma procedures individually. Able to assist surgical procedures. In addition to that, able to take a history of delicate personal issues and makes a provisional diagnosis based on history. Able to counsel for taking informed consent for surgeries and procedures.
4. Proficiency: Doctors having BAMS degree and Final year Post Graduate students should included in this level. They are able to counsel patient and care givers for a newly made diagnosis, diagnosis of serious illness and for seriously ill patients. Able to perform Surgeries and Panchakarma procedures individually.

Ayurved teachers should work to develop student centric teaching methods, so that students can get enough knowledge about Ayurveda to practice as an Ayurvedic Physician and able to serve society.

### DISCUSSION:

For the implementation of Competency Based Medical education in Ayurveda, it is necessary to evaluate an existing curriculum and there is a need to redesign a teaching and learning curriculum that responds to the need of faculty, students and administrators in medical education. Program evaluation and curriculum redesign is a continuous process that is ongoing, interactive and progressive. Competency based education and its assessment methods are different from traditional curricula, it is important to train teachers through faculty training programs for improving observational skills and feedback skills. It is important to sensitize and prepare the faculty for change. Assessment is the key point of the success of this system of education and hence it must be carefully planned. With Competency based medical education we are able to produce health professionals who can practice medicine at a defined level of proficiency, in accordance with local conditions, to meet local needs.

### CONCLUSION:

The Ayurved sector should urgently recognize the need of implementation of Competency base curriculum. There is a need to alter teaching, learning and assessment methods to reshape current curriculum into competency based curriculum. It means redefining the learning objectives, adoption of teaching methods that emphasize skill development and objective methods of evaluation with inbuilt feedback system.

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