

Short Communication

Clinical Skill Laboratories*A new trend of medical teaching methodology, is it a good tool of learning?***Ali Akbar Ghumro**

At the time of independence West Pakistan has got two medical colleges, one at Karachi in the name of DOW medical college and 2nd at Lahore in the name of King Edward medical college. With passage of time growth of medical colleges started under the public sector. As population proliferated demands of medical colleges in the country increased in public sector and then in private sector also. With the result that today there are more than 125 medical colleges and medical universities existing in the country. All these are governed by PMDC and HEC authorities. Entry of students, their number, training, teaching, faculty members, facilities, space, fees of students all are under rule by PMDC with some restrictions from higher courts also^{1,4}.

Economic crisis has compelled colleges as well as universities to create self finance scheme in public sector also from which these institutes generate their funds for utilization under a S.O.P rules for their various requirements which help in their survival and make them less dependent on government. In private sector this policy has flourished and has made them a good business trade.

Pakistan inherited medical curriculum from Britain at the time of Partition and still in many institutes this system is running. It has produced excellent results. As competent, disciplined doctors were produced who had proved their competency not only nationally but also internationally. Though this brain drain is a loss to country but it has also produce confidence of several countries in Pakistani doctors even in

British and U.S.A. Their teaching was through the old methodology of lecturing, manual dissection carried out on dead bodies in anatomy, patient doctor interaction like history taking, presentation and real patient examination and then ward test or sub stages with annual system of long essay and vovoice examination. By the growth of institutes, growth of candidates as well as of technology the past system of teacher dependence is no longer surviving. It has created so many lacunae like validity, uniformity, structure based, teacher bias problems and so many.

It is known fact that medical teaching is a life long learning system (CME) with development or application of new skills (CPD). Besides this he has to develop or learn critical thinking, managerial skills, advocacy, communication skills, professional values and attitudes to carry on population health.

To achieve above tasks we must be well versed with current trends of medical education and new technology. During the last 2 decades teaching has been transferred to objectivity, critical reasoning, examination to evaluation, annual examination to semester system, teacher centered to student centered, doctor oriented to patient oriented, isolated to integrated, hospital based to community based. Conventional teaching of lecturers, demonstrations, learning is changing to multimodal system like large group interactive sessions, small group discussions, self directed learning, patient based learning, team based learning and performance based learning with small projects and assignments also. Objection on conventional teaching (Lecture based curriculae) neither encourage the right qualities in students nor imparts a life long learning²⁻⁴.

Sir Willam Osloer more than 100 years before from today realized that the complexity of medicine creates so much problems that it is not possible for every teacher to teach the whole subject to the student that needs to know. OSLER recommended abolishing the lecture method of

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instruction and allowing students more time to study. He also emphasized the role of teachers in helping students to observe and reason^{7,8}.

In 1975 OSCE system of examination came into existence after that in basic subjects OSPE system also came to avoid teacher bias and create uniformity. On learning side many problems surfaced above the ground looking to huge number of students and deficiency of material (Patients) a new concept of clinical skill laboratories (CSL's) has developed which enhance the art of continuous medical education (CME) and continuing professional development (CPD)^{4,8}.

In this system a variety of standardized clinical approaches are used for students to receive complementary training in a systemic, safe and protected way by using effective educational strategies appropriate to their education needs and level of experience. Implementation of this new trend in institutions in Pakistan is obviously time consuming, costly must be integrated with curricula. It is the facility for the learner to learn clinical, communication and information technology skills to a specified level of competence prior to or co-ordinate with direct patient contact. It is support of the acquiring, maintaining and increasing clinical skills of students in health care profession⁷.

This can provide hands on learning experience before applying over patients for example, vascular anastomosis, valve replacement, intestinal anastomosis. In addition to above these laboratories must ensure equal opportunities for all students and then proper assessments also before approaching to real patients⁹.

These laboratories also can contribute to several curriculum competencies like interactive with patient, physical examinations, procedures like diagnostic and therapeutic, problem solving skills, professional attitude and ethics, team work management skills etc. In addition Clinical Skills Laboratories are also suitable for enhancement of other skills such as research, critical appraisal, evidence based medicine, scientific presentation, information technology and computing⁹.

DENT describes 4 current emerging trends

in teaching and learning in Clinical Skills Laboratories which have implications for their future implementations. These are expansion of delivery methods, adaptation of educational strategies, provision of assessment opportunities and recognition of support mechanisms⁸.

A Clinical Skills Laboratories should be setup near to patient care (ward), it should be equipped properly with facility of seminar room, bedded ward area, procedure skills training, room for consultant, resuscitation network (ICU), computers with internet facility, video cameras and microphones. Simulated domestic environment should also present. It should be attractive, conducive atmosphere with ward environment^{7,10}.

It should accommodate self directed learning with OSCE type of interpretation tests and other type of clinical examinations.

The training can be performed on models, manikins, screen based simulators, high technology procedures and interactive simulators. Following are the some of procedures which are included like intravenous puncture, infusions, blood pressure, listening for heart sounds, digital examination of rectum, for growth or enlarged prostate, changes in retinopathy, ear disease diagnosis, air way management, labour management of normal or obstructed labour for gynae trainers, testicular examination, lung examination for various types of Breathing and added sounds, breast examination with lymph node palpation, catheterization procedure, spinal injection, central venous cannulation (CVP line), heart catheterization simulator and case testified with number of case histories and quizzes to test proficiency level. Valuable video taps or CD, ROM / DVD are also learning resources which should be available in setup of laboratory with computer based learning facility, X-rays, photographs, ECG's, on human resources, sites simulators, real patients, volunteers with instructors should be available.

Clinical skills teaching also should be there with demonstration sessions, case scenario, small group teaching interactive session and role playing. It should be more student centered for this term used is "SPICES" (Student Centered, Problem-based, Integrated, Community-oriented, Elective

and system based) other education strategies which can be adopted by skill laboratories can be self directed learning, task based learning, multi professional learning and outcome based education¹¹.

Always it should be covered with teaching staff of concerned specialty with good management and sincerely working with support from curriculum committee. Who should be involved also in evaluation of learners, responsible for timing, scheduling, timetable, examination arrangement, simulated and real patient banks, maintenance of equipments and budget preparation.

Proper orientation, supervision, support materials and guide lines are helpful for safe and correct use of laboratory.

The physical facilities, administration, organization and types of models used depends upon local requirement, budget curriculum needs depending upon budget, number of students and staff, available space and local condition.

It can be used in assessment of students also, can be used is regular tests as well as in OSCE making series of stations. Exposure to clinical skills in relation to curriculum integration can produce the appropriate skills in student as supported by Dare et al¹⁰. The teachers also should be trained well enough to teach student and evaluate their performance objectively. New technology employing sophisticated models and simulation electronics helps students with learning more effectively^{7,11}.

The convincing factor for skill laboratories are increasing number of students, relative short supply of clinical materials, decreasing number of patients. Patients awareness of their rights, their comfort, safety, Independence and their objection to being exposed to unskilled learners^{6,7}.

Medico-legal considerations, as medical students learn both their clinical and communicable skills on available patients, day care surgery, all factors collectively has created the feeling of existence of such laboratories.

Medical students used to learn both clinical and communication skills in patient care by practicing on available patients may not be sustainable for too long time. Thus clinical skill

laboratories can be used to prepare students for clinical practice without distressing the patients. Allowing students to learn in a safe environment under a supervised care, it can be used to perform difficult, painful and embarrassing procedure in a cordial atmosphere, doing rehearsal of a particular skill to learn more about it. It can be used for under graduate as well as for post graduate learners. Cognitive, psychomotor skills CME and CPD. Clinical skills laboratories can enhance professional development of faculty and community doctors also. After the Clinical skills laboratories training students are better motivated have more confidence in managing patients with solving the patients problems more effectively without fear and anxiety so of teaching staff who took more interest in better and learned students.

Skill laboratories also eliminates the inconvenience to the patients, creates self learning attitude, meeting student's educational needs and facilitating interactive learning. Another important factor is less time is consumed in learning skills so time can be saved for research, professional development, educational management and other academic activities.

Once all it looks to be a better tool of learning for students but it's demerits could be.

Skills which are not taught correctly will continuously practiced poorly, this may be due to poor management controls when teacher or supervisor is not available and students practice it by his or her own^{7,11}.

Clinical skills sessions should be designed properly supported by traditional education models, be stuck in time, place and content.

However this methodology can not replace real clinical training, it may be a good trainer factor. High cost of purchasing, maintaining and updating of materialized equipment. Punctuality and regulatory of students and supervisor regular assessment and summation of these assessments should be a mandatory part of training. Putting them as valuable factor in final examination may help in keeping regularity of students and supervisor. This system should be flexible and tailored to local needs. Any negative attitude from students or teacher staff may spoil whole attempt.

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