



ISSN: 2091-2749 (Print)
2091-2757 (Online)

Correspondence

Dr. Ajaya Kumar Dhakal
Department of Pediatrics
KIST Medical College, Lalitpur,
Nepal
Email: ajayakdhakal@gmail.com

Peer Reviewed By

Dr. Ashis Shrestha
Patan Academy of Health Sciences
Email: ashishshrestha@pahs.edu.np

Dr. Sumana Bajracharya
Patan Academy of Health Sciences
Email: sumanabajracharya@pahs.edu.np

Clinical skills Lab: A Need in Nepalese Medical School

Ajaya Kumar Dhakal,¹ Sanjaya Dhakal²

¹Department of Pediatrics, KIST Medical College, Lalitpur, Nepal

²School of Public Health, University of Alberta, Canada

ABSTRACT

Medicine of present world demands high level of competency in both clinical examination and performing a procedure in patients. The traditional methods of bedside skill learning and teaching should be supplemented by instruction in clinical skills lab of basic important clinical skills. Every medical school should work towards establishment and incorporation of clinical skills lab in basics science subjects and clinical posting along with other subjects to make it Practice oriented and Student centred learning.

Keywords: clinical skills Lab, curriculum, medical education

INTRODUCTIONS

Medical education in Nepal begin with establishment of ayurvedic school in 1933 followed by Civil Medical School for “basic level” health worker in Kathmandu¹ However advanced training started with MBBS studies in 1978 and post graduation training in 1982 under Institute of Medicine, Tribhuvan university.¹ The opening of new medical schools has helped in production of health manpower at start of 21st century. The majority of these medical school follow traditional classroom lecture along with bedside teaching and lately problem based learning has been started as method of teaching learning activities.²

The three learning principle” knowledge, attitudes and skills” in medical education, are acquired thorough bedside teaching, lectures, demonstration, audiovisual presentation, role play.³ Historically, clinical skills were learned through observation of different procedure for certain period or set number of cases followed by performing same procedure under supervision. In one of studies done among medical students in Nepal, 25% of students were not satisfied with the clinical skills acquire during undergraduate education so that they are not self assured in starting a residency programme.² Hence clinical skills lab can enrich, supplement, expedite and bridge these learning activities during medical training.

Clinical skills lab along with traditional bedside teaching using modern audiovisual aids are fundamental part of undergraduate curriculum development and medical education throughout world in present context⁴ and we should also incorporate basic clinical skills lab facilities in our medical education using our own resources for transition to modern medicine.

PRESENT SCENARIO IN NEPAL

Nepal Medical Council, an autonomous regulatory body for monitoring Medical education in Nepal, in its publication "Accreditation Standards for MBBS" has laid specific criteria to achieve "The competencies of the MBBS Graduate". The guidelines mandates competency of graduates in clinical skills, communication skills, research, population health and health system, ethics and information management and instructed all the medical college to include in undergraduate curriculum.⁵

Medical student after graduation from medical school, should able to perform basic clinical skills and procedure independently at primary health care setting in any clinical scenario that should leads to early and accurate diagnosis and patient management. This vision led to incorporation of clinical skill lab training as integral part of medical education in the revised 2008 curriculum of Institute of Medicine.⁶

The Institute of Medicine, Tribhuvan University Teaching Hospital has started clinical skills lab in 2008 at Maharajgunj Medical Campus, which is equipped with manikins, models and equipments required to train the basic clinical skills. The Skills Lab runs through administrative efforts of National Centre for Health Professions Education (NCHPE), situated at Mohego building. Under guidance of Nepal Medical Council and using the 2008 curriculum of Institute of Medicine, Tribhuvan University as a reference, many other Medical Colleges have initiated towards or already implementing clinical skills training for their students.

CLINICAL SKILLS LAB

Clinical skills lab teaches history taking, physical examination, investigation skills, logical diagnostic approach, medical value, team concept and close loop feedback using effective communication with used of simulators, manikins, simulated patients and case scenarios under the guidance of teacher.⁷ Clinical Skills Lab is designed for teaching and assessing learners at different level of skill, experience and expertise in controlled and safe environment, according to individual needs. To successfully train and achieve the goal of practiced oriented and student focussed learning,

Institute of Medicine has mandated the rotation of students through clinical skills lab during second year of medical school, junior internship and at start of internship.⁸

According to the curricula of Institute of Medicine, the important skills that student will learn in skills lab are clinical skills (rectal examination, Ear examination, gynaecological examination and auscultation of heart sounds and breath sounds) and procedural skills (cardiopulmonary resuscitation and intubation in neonate, child and adult, peripheral and central venous access, ECG interpretation, umbilical catheterization in neonate, pleural aspiration and insertion of chest tube, wound closure, universal precautions).⁸

Clinical skills lab not only nurtures clinical skills, but also aid in imposing theoretical book knowledge of clinical medicine into clinical practice which is indispensable in patient management either at an outpatient clinic or during inpatient ward posting.⁹

The importance of clinical skill laboratory can be evaluated and defined from Students, Patient and Physician perspective. Students have to learn much procedure in short time or many times they may not even get a chance to perform some procedure due to large number of students in a group or a change in pattern of patient management from inpatient to outpatient, as result many students will begin internship training with minimum skill. Those issues can be overcome by integrating skills lab as a part of learning, which will help to enter internship with greater skill, experience, confidence and also reduces stress of internship.¹⁰ A number of other issues revolving around the patient including shortening of hospital stay, ethical issues of practicing in real patients, and rights of patient can also limit the learning process. Despite of these setbacks, it is important to note that the integration of patient in medical educational process will teach students patient management, working in a team for a goal, ethics, interpersonal relationship and communication skills which will ultimately improve the clinical competence of students.¹¹ A Physician overburden in clinical work may not able to devote his time for skill teaching at bedside or even at outpatient clinics, which definitely hampers clinical competence in students and one of the solution to these issues could be establishment of clinical skill lab.

ESTABLISHMENT OF CLINICAL SKILLS LAB

The cost of establishment of clinical skill lab will be higher for developing countries like ours, as expensive instrument has to be imported with added administrative and logistic cost, maintenance cost, added cost for space

and permanent staff dedicated to operation of facilities. In addition there must be continuing medical education and training facilities for faculty.¹² Therefore, we must use local and socially acceptable available resources along with judicious use of imported simulation instrument to teach our students.

WHEN TO INCLUDE

The Clinical skills lab can be included in preclinical years, clinical years with rotation, internship, residency training program and also as a part of continuing medical education.

During Preclinical year students are learning basic sciences and aren't exposed to patient directly and inclusion of skills lab during this period will bring better outcomes basic science course along with marked improvement in clinical skills, communication skills, acquiring patient medical history and physical examination.¹³ Performance standard of students, assessed with Objective Structural Clinical Examination (OSCE), who learned in skills lab in addition to traditional learning throughout medical school was significantly higher in comparison to student who were taught in skills lab in final year followed by 12 month internship. This demonstrates the importance of clinical skills lab in clinical years.¹⁴

The skills acquired through the clinical skill lab and its application in management of real patients has remained a subject of debate and further research. A recent randomized controlled trial found that those students who were trained in skills lab are more professional, can perform procedure faster, had better communication skill and provided overall better medical care¹⁵ which reinforces a previous systematic review which concluded that skills laboratory training improves procedural skills.¹⁶ This article also highlighted that most of prior studies did not assess application of skill learn from skill lab in real patient in a clinic or hospital setting.¹⁶

In conclusion the clinical skill lab is supplementary to traditional bedside teaching in undergraduate teaching and we should work towards building a clinical skills lab that is best suited for locally available resources and most importantly dedicated to educate our students.

REFERENCES

- Dixit H. Development of medical education in Nepal. KUMJ. 2009 Jan-Mar;7(25):8-10.
- Marahatta SB, Dixit H. Students' perception regarding medical education in Nepal. KUMJ. 2008 Apr-Jun;6(2):273-83.
- Bloom BS, Engelhart MD, Furst EJ, Hill WH, Krathwohl DR. Taxonomy of Educational objective: The classification of educational goals. New York: David McKay company, Inc; 1956.
- Al-Yousuf NH. The clinical skills laboratory as a learning tool for medical students and health professionals. Saudi medical journal. 2004 May;25(5):549-51.
- Nepal Medical Council. Accreditation Standards for the MBBS (Bachelor of Medicine and Bachelor of Surgery) Degree Program for Institutions Admitting 100 /150 students Annually. Kathmandu, Nepal [cited 2013 June 10]. Available from: <http://www.nmc.org.np/downloads/93294.pdf>.
- Tribhuvan University Institute of Medicine. Amendments made in the MBBS curriculum (2008). Curriculum for Bachelor of Medicine and Bachelor of Surgery (MBBS). Maharajgunj, Kathmandu, Nepal: Medical Education Department; 2008.
- Kneebone R, Nestel D. Learning clinical skills – the place of simulation and feedback. The Clinical Teacher. 2005;2(2):86-90.
- Tribhuvan University Institute of Medicine. Course title :Basic clinical Skills. Curriculum for Bachelor of Medicine and Bachelor of Surgery (MBBS). Maharajgunj, Kathmandu, Nepal: Medical Education Department; 2008. p. 215.
- Morgan R. Using clinical skills laboratories to promote theory-practice integration during first practice placement: an Irish perspective. Journal of clinical nursing. 2006 Feb;15(2):155-61. PubMed PMID: 16422732.
- Liddell MJ, Davidson SK, Taub H, Whitecross LE. Evaluation of procedural skills training in an undergraduate curriculum. Medical education. 2002 Nov;36(11):1035-41.
- Janicik RW, Fletcher KE. Teaching at the bedside: a new model. Med Teach. 2003 Mar;25(2):127-30.
- Stark P, Fortune F. Teaching clinical skills in developing countries: are clinical skills centres the answer? Education for health. 2003 Nov;16(3):298-306.
- Ali L, Nisar S, Ghassan A, Khan SA. Impact of clinical skill lab on students' learning in preclinical years. Journal of Ayub Medical College. 2011 Oct-Dec;23(4):114-7.
- Peeraer G, Scherpbier AJ, Remmen R, De winter BY, Hendrickx K, van Petegem P, et al. Clinical skills training in a skills lab compared with skills training in internships: comparison of skills development curricula. Education for health. 2007 Nov;20(3):125.
- Lund F, Schultz J-H, Maatouk I, Krautter M, Möltner A, Werner A, et al. Effectiveness of IV Cannulation Skills Laboratory Training and Its Transfer into Clinical Practice: A Randomized, Controlled Trial. PLoS ONE. 2012;7(3):e32831.
- Lynagh M, Burton R, Sanson-Fisher R. A systematic review of medical skills laboratory training: where to from here? Medical education. 2007 Sep;41(9):879-87.