

DEVELOPING A MODEL FOR CLINICAL TEACHING & LEARNING.

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Ward based clinical teaching on admitted patients has been gold standard of clinical teaching for long time. However, this heavily on availability of patients with variety of diseases being present at the time of teaching. The agreement that primary health care should be promoted and whenever possible, patients should be treated in the community and in ambulatory setting has also resulted in reduction of pool of patients available for clinical teaching. Admitted patients can be too sick to participate in learning. They may not be willing to participate in learning. The need for planned, structured, integrated, deep and active learning with proper schema activation promoting higher level of cognition, developing good clinical and communication skills, and excellent attitudes based on ethical principles has promoted clinical teaching to look for ways to supplement traditional ward based teaching. New trends have been identified which need be incorporated in any planned, structured teaching programme. I have developed a model for teaching and learning clinical surgery based on the current trends in clinical setting.

For this purpose, I have taken following two steps.

1. I am setting a clinical skill unit (CSU) in a building under Gynecology & Obstetric department, which lies in close vicinity to surgical OPD, surgical wards and operation theatre suites
2. I have identified following areas of ambulatory teaching in our setting.
 - a. Intensive Care Units
 - b. Coronary Care Units
 - c. Radiology Department
 - d. Pathology Laboratory
 - e. Accident & Emergency Department

Now let us discuss how our new model of teaching and learning will be based on each of the 6 common current trends.

1. STUDENT CENTERED TO PATIENT CENTERED.

Traditionally, we have trusted on pool of patients to provide sufficient learning material to students. However, we have seen following problems:

- a. Some patients may be too ill to be suitable for students practice.
- b. Some patients may not consent to assist in students' learning.

Hence we have changed our setting for clinical learning to include:

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- ◆ Clinical Skill Unit (CSU) with simulated patients as described below.
- ◆ Community care with General Practitioners' assistance.
- ◆ Ambulatory setting.
- ◆ Ward setting.

Now we have a larger pool of patients and clinical learning centers where we can ensure that all core clinical topics are covered in a systematic manner.

Similarly, we have included a pool of problems with emphasis on problem based learning and another pool of extended matching items. These two cover all the core topics including clinical emergencies and common clinical conditions.

2. APPRENTICESHIP TO SYSTEMATIC TEACHINGS.

Traditional clinical teaching will not ensure that core teaching outcomes have been achieved by all the students, it is opportunistic and leaves too much on chance. Hence as mentioned above, we are developing the Clinical Skill Unit (CSU) with simulated patients as described above. It will ensure that the clinical teaching is systematic.

Now let me discuss CSU in little detail

Students will be posted here to practice skills in simulated patients, and virtual emergency situation to learn prior to what they will see during their postings, to learn those parts of systematic learning that could not be covered in wards (used simultaneously with ward postings) and to be observed and guided by the teachers. CSU will have.

- A group of well-trained simulated patients (SPs).
- Latex models connected to SPs for procedures such as urethral catheterization, wound closure etc.
- A nursing station with usual instruments such as drug trolley, patients case sheets, sphygmomanometers, stethoscopes urinary catheterization set, IV cannula, crash trolley set, etc.
- A learning bay with diagrams, specimen, X-Rays and Hell constructed problems to supplement learning common clinical problems.
- A small library with books, seating arrangements, audio visual equipment with CD, Videotapes and movie camera to record the history taking, physical examination, procedures performed and communication with patients, nurses and paramedical staff.

Of course after spending time in CSUs, students will be posted in

- Community care with General Practitioners' assistance.
- Ambulatory setting.
- Ward setting.

Advantages of this model:

- The student will not miss the opportunity to learn about the patients with some diseases we consider are important for students' learning (as we will use a pool of simulated patients in defined order).
- Students will get practice and confidence before being exposed to real patients.
- The students will be able to practice skills like urethral catheterization on latex models without putting the patients at risk.

3. MULTI PROFESSIONAL ASPECTS

Health care workers work together. Yet they are taught at separate institutions. There are separate schools for Medical students, Nursing Students, Para Medical Students etc.

Hence our Clinical Skill Unit (CSU) will have students from all these schools who will have the responsibility of trained professional in its virtual atmosphere.

Various combinations of activities will be performed by students. A relatively detailed activity, dealing with multi professional aspects is described here.

A group of students involving third year Medical students of Muhammad Medical College, nursing students and paramedical students will be sent to the CSU where 8 simulated patients with a variety of clinical problems are admitted at one time. The Medical students behave as doctors acting independently. They interact and communicate with their colleague student nurses, student paramedics, and simulated patients. They take history, perform clinical examination, interpret the data recorded, decide the investigations, make provisional diagnosis, decide the management and explain and educate the patients. They also perform tasks such as urethral catheterization or suturing wounds on latex models connected to SPs. The whole process is intermittently interrupted with a crash call or having to talk and explain to an anxious relative.

All this is recorded. Later the students have a feedback from observing teacher and SPs, they watch videos with teachers to identify and correct deficiencies. Finally a form is filled to evaluate the session by each student. The results are recorded in log books.

4. FOCUS ON CLINICAL SETTING

Ward based teaching is becoming increasingly insufficient to fulfill the objectives of clinical teaching of medical students. About a quarter to a half of what used to be inpatients surgical pool, has now shifted to ambulatory surgery setting. Average inpatients stay for acute specialties used to be 11.3 days in UK in 1970. 20 years later (by 1990) it had dropped to almost a half i.e. 6.1 days. More than 2/3 of hospital patients' contacts are now in ambulatory care setting.

Hence it is important to utilize these patients for clinical teaching so that the contact period of students with patients does not drop down. To do that, it is important to convert teaching and learning situations in non-

ambulatory care setting such as bed side teaching or a lecture theatre teaching into ambulatory care settings.

As there are fewer opportunities for students to interact with ward patients, it is very important to make full use of patients in community and ambulatory care setting such as outpatient's clinic. Hence I have included a pool of General Practitioners with good clinical skills to teach students at community. I have also identified following areas of ambulatory teaching in our setting.

- Intensive Care Units
- Coronary Care Units
- Radiology Department
- Pathology Laboratory
- Accident & Emergency Department.

5. REFLECTIVE PRACTICE

In traditional teaching, students remembered the patients encountered in ward and the way they were treated. However, there was no proper scheme or structure. Hence it could not be expected that all students will achieve core outcome.

In our new model, we have encouraged to promote reflective practice. One example is given below:

All 3 year students posted in department of Urology will be asked to complete a structured logbook (EPITOME Model of Reflection). This is

- E:- Enquiry (History Taking)
- P:- Performing Physical Examination.
- I:- Interpretation of data.
- T:- Technical Skills development.
- O:- Option of Diagnosis.
- M:- Management.
- E:- Education of Patients.

Two more objectives are to:-

Develop Communication skills.

Independent learning (Continued Medical Education, Life Long Learning).

This logbook will be in line with Constructivist theory of Learning (Schema activation, construction, and application).

6. EARLY INTRODUCTION TO CLINICAL PRACTICE.

As Pakistan Medical & Dental Council (PM&DC) insists that First two years of Medical education or MBBS Course should consist of Anatomy, Physiology and Biochemistry and only these subjects be examined in first two years (next three have combination of basic and clinical sciences). Hence we have not introduced our students to clinical practice so far.

However, we are planning to introduce clinical practice in first two years, albeit at a limited scale. At present this clinical practice will be limited to clinical application of teaching of Anatomy, Physiology and Biochemistry. For example clinical implication of injury to important anatomical structures like ulnar, median and radial nerves etc.

Advantages of developing this model based on current trends:

This model will promote deep and active learning with critical thinking in students with schema activation. They will develop skills of good history taking and physical examination. They will be able to link the findings to certain conditions and interpret data to make a provisional diagnosis. They will be able to decide which investigations to request and decide the management.

Their communication with colleagues, nursing & paramedical staff, patients and relatives will improve. They will be able to perform certain procedures like urethral catheterization and wound closure.

The teaching and learning exercise will be planned and not left on chance. Hence the chance of missing an important teaching session will not be there. Availability of patients will not be a problem. Including the patients in community care and those at ambulatory care setting will enhance the supply of patients (who will not be too sick to become unsuitable for students' practice). Simulated patients at CSU will mean that students will have plenty of practice and confidence before being exposed to real patients. An important clinical condition will not go amiss due to unavailability or unwillingness of patients to participate. Communication skills will improve. Students, as well as teachers will be able to watch the performance on video as many times as necessary, identify the problems and take corrective steps. This model will also promote the students to become life long learner.

Disadvantages of developing this model based on current trends:

Obvious disadvantages include increased resources and time required in training of all involved including faculty, administration. Simulated patients and students. This will obviously put further strain on already strained budget. Moreover, as happens with most changes, there may be some opposition to altering an established, traditional pattern of clinical teaching and training.

Conclusion:

Increasingly, we clinicians are becoming unable to teach all the skills to the students on real patients, The potential scope of clinical skills units (CSUs) is broad and includes not only clinical and communication skills, but also computer assisted learning, medical information skills, medical informatics, multi professional learning and assessment. Hence I believe we should follow new trends and incorporate teaching in CSUs and ambulatory teachings with our traditional ward based clinical teaching programs.