Delivering Electives the Clerkship Way: Consolidating the Student Doctor Method of Training

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Student doctor method of clinical training or clinical clerkship provides students with exposure to the entire longitudinal illness of the patient. The students participate in patient care as a part of treating team and can refine their clinical, communication and procedural skills. It provides them with an opportunity to work with the faculty and experience the future workplace. Although the graduate medical education regulations (GMER) provide for student doctor method of training, the time provided is too little and opportunistic. Electives have also been recently added to the new curriculum for the first time. We propose a model to deliver the electives using the clerkship method, so as to consolidate what students learn from the ongoing clerkship. This model is feasible, practical and can be introduced in the current GMER for Indian medical undergraduates without any major disruptions.

Keywords: *Longitudinal integrated clerkship, Rotational clerkship, Self-directed learning.*

Student doctor, student physician, and medical student are the commonly designated terms for medical students pursuing medicine as a career [1]. Many 'student doctors' are expected to learn through clinical experience by staying in the wards or outpatient unit with the treating team and interacting with patients on a continuous basis. This 'student-doctor method of clinical training' provides an opportunity to the students to be a part of the treating team. It also improves their clinical, communication, and professional skills [2]. They get to learn first-hand about the dynamics of health, and disease and the importance of teamwork in health care.

STUDENT DOCTOR METHOD OF CLINICAL TRAINING

In the traditional clinical postings, the students usually get involved in care of a patient at one point of time, mostly once the diagnosis is established. They do not get to directly observe the process of managing a sick person starting from the clinical presentation, reaching at differentials, planning work-up, treatment, monitoring, discharge, and follow up. This lack of opportunity to be involved in the continuity of care is important learning gap among medical undergraduates in India. [3] Relationship with faculty is also cross-sectional, which often leads to sub-optimal learning. [4] The faculty who can serve as role model and mentors, does not have continuous, longitudinal relationship with the students. To avoid any confusion, we would be referring to the student-doctor method of training as clinical clerkship in this paper.

Concept of Clerkship

In "clerkship," the student is a part of the treating team and stays in the ward, and is assigned patients to eva-luate, examine, and communicate regarding the diagnostic and therapeutic plan [5]. All this happens under the supervision of a faculty preceptor. This provides the student with a real-world experience of their future career. The term clerkship is often confused with internship and observership. Internship refers to real-world experience after acquiring the primary qualification, whereas clerkship is during the training period before acquiring the desired qualification [6]. Observership refers to clinical experience, but it does not involve direct patient care [6]. During the clerkship, the student gets an opportunity to interact one-to-one with the faculty preceptor, as well as with the assigned patients and their families.

This longer exposure of students to clinical care could be beneficial for the learning outcomes. They can have a first-hand experience of the difficult procedures and unpredictable conditions by staying round the clock. This provides the student with advantages of 'tacit transmission' of skills by just being with an experienced resident or faculty [7]. The student presents the history, examination, diagnosis, and progress of the patient during the clinical rounds. He is expected to be updated on the health status of the allotted patient, and aware of their

patient's investigation reports and management. The student-doctor can participate in any procedure or investigation performed on the patient to acquire procedural skills but cannot take independent decision on diagnosis and management of the patient [8]. The student will be a part of daily work rounds, formal teaching rounds, and departmental teaching conferences. It is an opportunity for the student to explore the future workplace.

Objectives of Clinical Clerkship

Three key components of clinical clerkship are *i*) exposure to the entire longitudinal illness of patient, *ii*) learning from experienced faculty, and *iii*) observing the breadth of core clinical problems [9]. Different institutions may define their objectives differently, but the key benefits remain the same. The goals of clinical clerkship method of training are outlined in **Box I**. In line with the stated GMER goals [10] of enabling the students to be a part of longi-tudinal health care and the treating team, in addition to getting hands-on experiences, the objectives of clinical clerkship are as follows:

At the end of clinical clerkship, the student must be able to:

- Integrate the basic science knowledge with clinical reasoning.
- Establish and maintain a therapeutic relationship with the patient.
- Elicit complete medical history, perform examination, arrive at clinical differentials, develop sound clinical reasoning, communicate to the family, and participate in the decision making.
- Work effectively as a member of team and demonstrate professional behavior.
- Understand the dynamics of health and disease in the milieu of financial and socioeconomic conditions.

Box I Goals of Student-Doctor Method of Training (Clinical Clerkship)

- Application of medical knowledge and skill development
- Delivery of effective and compassionate patient care
- Developing interpersonal and communication skills
- Developing professionalism
- Developing practice-based and system-based learning.

The benefits of clinical clerkship method of training are summarized in **Table I**.

Models of Clinical Clerkship

Various clerkship models have been created to suit the local needs and context. The clerkship could be either a rotational clerkship, longitudinally integrated clerkship (LIC), or longitudinal ambulatory clerkship (LAC) [11]. When the students are posted in a core specialty department like internal medicine, general surgery, obstetrics, pediatrics, and family medicine, by rotation for a fixed period, it is called rotational clerkship [12,13]. In longitudinal integrated clerkship (LIC), students learn all core competencies across all disciplines simultaneously [14,15]. In longitudinal ambulatory clerkship (LAC), selected students are paired with preceptors in core specialties and assigned to ambulatory clinic sites for 5-10 hours in a week [16-18].

Clerkship in the New Curriculum

In GMER, learner doctor method of clinical training (clinical clerkship) has been introduced in the section 9.5 under the broad heading of new teaching or learning

Table I Benefits of Clerkship Program to Various Stakeholders

Benefits to students	*Benefits to faculty*	*Benefits to institution and patients*
Opportunity to deal with real patient in a supervised environment	Better job satisfaction	Student doctor can serve as patient advocate and can act as a bridge between the patient and the treating physician
Exposure to clinical cases from presentation to outcome	Improved quality of faculty clinical teaching	Improved patient satisfaction with an approachable student doctor to take care of their needs
Confidence in clinical skills and professional behavior	Teachers enjoy sharing their expertise and mentoring their students to develop professionally	Decreased burden on clinical services with student doctor as an additional manpower to the treating team
Develop deep learning strategy with sound clinical reasoning	It is an opportunity to identify potential students for recruiting in their specialty	Improved quality of teaching in the institute
Motivation to self-directed learning. Better opportunity to receive feedback on student's performance	Ability to directly observe the student on clinical and professional skills	Improved competency of the outgoing students with better placement on long-run

elements [10]. The goals of clerkship program are to provide learners with experience of longitudinal patient care, being a part of health team, and hands-on care of patients in outpatient and inpatient settings. The structure and assessment have been suggested in the document [10]. In Phase I, the students are expected to understand and get sensitized to the hospital environ-ment. In Phase II, students are expected to take the history, perform examination, and arrive at possible diagnosis. In Phase III, they are additionally expected to plan investigations, and finally assist in management and decision-making.

There is a lack of clarity with reference to the structure of the module and timeframe where the same could be introduced at different levels. As of now, the students have not been provided any dedicated time and must squeeze in time within the ongoing timetable. Given the directive that students should not miss their existing classes/postings and work on this program till 6 PM only, the gains from this intervention are going to be highly variable, inconsistent and opportunistic. Introduction of clinical clerkship module within the existing time frame of the new curriculum is therefore likely to be challenging. If we keep the duration very short, the learner will not understand the expectation and the preceptor would not understand the level of learning by the student and to provide feedback on possible benefits. If we keep it too long, it will have logistic constraints.

Some of the possible issues are listed in **Box II**.

ELECTIVES IN UNDERGRADUATE HEALTH PROFESSIONAL TRAINING

Electives are gaining importance in health professional education in shaping the student's professional development [19]. Electives provide an opportunity for students to gain exposure in their future field of interest. Students develop transformative learning during the electives, and have previously rated this experience as innovative [20]. National Medical Commission (NMC) has introduced eight weeks of elective posting for medical undergraduates [10]. The first slot of electives devotes a few hours to basic sciences, the second slot provides for full time exposure in the chosen area.

Box II Possible Issues With the Clinical Clerkship Program as Provided under GMER, 2019

- No dedicated time provided. Only opportunistic visits between ongoing teaching.
- Students may not find time due to ongoing teaching or miss out on important events related to the illness.
- Faculty may not be available when students visit the wards.
- Rounds, collection of samples etc. and procedures may not be practicable for students without a dedicated time.
- The program may get reduced to just completing logbooks without meaningful learning.
- Professional bonding and continuity of care may not happen.
- Assessment may be haphazard and unequal for different students.

CONSOLIDATING CLERKSHIP WITH ELECTIVES

We propose that the slots earmarked for electives be utilized as a dedicated clerkship period, which can also be used to post students in the speciality chosen by them (subject to local situation and logistics). At present, there are no models to deliver electives. Individual colleges can develop a mechanism to provide clerkship experience in the chosen elective. As we gain more experience of running this prog-ram, the scope and number of electives can be redefined.

It is suggested that out of the eight weeks, four weeks each may be devoted to medical specialties, and the remaining four weeks to surgical specialties. The modalities for dividing the students could be as per their choice or any other criteria, and the maximum number in each group can be as per the discretion of the institutions. A student can be allowed to opt for only two weeks slot for a given department to increase the breadth of experience (can work in four departments).

The daily schedule could include ward rounds with residents/senior residents (8-9 AM) and consultants (9-10 AM). The next slot of 10 AM-1 PM could cover ward work, sampling, procedures, operation theatre, special clinics and laboratories. After the lunch break (1-2 PM), evening rounds could be scheduled with residents with discussions on laboratory reports (2-4 PM) and consultants (4-6 PM).

This will be an additional input to the clerkship program already provided in the GMER, running from second year onwards, and will consolidate the immersive learning opportunity. Similarly, the electives experience will also become more structured and oriented to clinical care. This proposal is to orient the students in the process of healthcare rather than in the specific diseases, which will anyway be taught during routine ongoing postings. The training could be tailored to the local needs of the students and faculty instead of a one size-fits all approach. Reflections should provide an opportunity to think of applying this knowledge to routine patient care.

Advantages and Challenges

The proposed consolidated model of clinical clerkship with electives has several advantages. It is a time efficient

model which can be fitted into the existing timeline schedule set by NMC and will provide dedicated time for getting involved in longitudinal care. It should be acceptable to majority of medical institutions in India, with less burden on students and faculty. This model takes care of elective component and will obviate the need to send students outside the institutions for elec-tives. There will be no additional financial burden on the institutions for incorporating this consolidated model. It also provides students with opportunity for one-to-one mentoring.

This model also brings in a few expected challenges. The phased incorporation of clerkship starting from the first year where the student would develop orientation to the hospital cannot be executed with this model. Ideally clerkship model must be longitudinal, and the suggested model of 8 weeks falls short of this expectation, but it is expected that the students would have already experienced being student-doctor in an already running program. However, any model needs to be suggested within the liberty provided by regulations and this suggested model would be better than the present unstructured model. Replacement of the existing elective model with the suggested consolidated model might raise another concern. In the current elective model, the student gets four weeks exposure to laboratory and research in pre- and para-clinical subjects, which might be compromised with this consolidated model. This might defeat the essence of the student choosing the departments on their liking/ understanding for getting diverse learning ex-perience in laboratory sciences. However, during the new model postings, treating clinicians can build in exposure to laboratory, or research methodology, including consulting literature related to the alloted patient.

Acceptance of the model among the faculty and administrators might be challenging. All faculty including those from super-specialties would need to get oriented on electives and clerkship module to become effective preceptors. The students' compulsion to perform in the summative examinations, and their focus on postgraduate entrance examinations may demotivate them to spend their time on clerkship unless it is incorporated as part of the internal/formative assessment. [19]

There are many factors that would determine and influence the implementation of consolidated clerkship program. These include the length of clerkship, and the number of students and faculty [4]. Number of beds in inpatient setting, outpatient burden (patient turnover), and availability of departmental resources are crucial factors for the successful implementation of the training. Lack of clarity in clerkship objectives, content, timetable and process of evaluation, and sub-optimal training and motivation of faculty are some other hurdles to its implementation.

Introduction of clerkship may be challenging in centers with limited patient turnover. In such a situation, liaison with a nearby center with adequate exposure could be chosen or if that is not feasible, the student can be expected to go to a higher level of complexity of learning [21]. Similarly, in centers with excessive patient load, it may be difficult to take time out. The student may spend time on activities with little educational or learning value. There might also be lot of variation in the nature and quality of supervision [22]. A simple shadowing by a student-doctor without getting feedback could be another major challenge.

Assessment During Clerkship

Assessment of learner in clerkship is mainly formative with the purpose to provide feedback to students. The student can be expected to fill the logbook with the details of the assigned patient, and the quality of the report is assessed by the faculty keeping in mind the objectives of the clerkship program [22]. This can be a part of the inter-nal assessment, which forms one of the eligibilities for appearing in the final examinations. Student can be assessed by longitudinal preceptor in each discipline by clinical skills evaluation, Direct observation of proce-dural skills (DOPS), mini-clinical evaluation exercise (mini-CEX), review of portfolios, observed interviews and case formulations [23]. More the number of assessors, greater will be the reliability of the clerkship assessment [22]. Apart from the method of assessment, the content of the task is important determinant of validity of assessment in clerkship [22]. In an internal medicine clerkship, three principal components of assessment viz., information processing, professionalism, and declarative knowledge have been suggested [24].

In addition, students may be encouraged to write reflections of their learning experience using Rolfe model [25] of 'what happened,' 'so what,' and 'what next.' Student's progress needs to be periodically reviewed. Student's self-assessment, and formative feedback might help in setting new goals [26]. The learning strategy used by the students during clerkship will be determined by the mode of assessment. Feedback to students from the preceptors is an essential component of clerkship program [27]. Supervisor narratives are also useful, and help in course-correction and program evaluation [28].

Faculty Training

Departmental heads, medical education units and curriculum committees must be involved in training the faculty, residents, and paramedical staff on clerkship. Faculty's

role is to motivate the students, facilitate learning, promote independent thinking, express their ideas, encourage compassionate care, and equip the students for lifelong learning [29]. The faculty involved in clerkship rate teaching and involvement in the program positively [29]. They develop familiarity with students and find more interactive learning and students developing clinical reasoning skills [29].

Feedback and Program Evaluation

Program evaluation must consider students' attitude, perceptions (from mid-year and end-of- year questionnaire), and focused group discussions [30]. It must also assess the fund of knowledge and accuracy of self-assessment. Extent of clinical experience can be retrieved from the patient log. This includes ability of the student to witness the whole illness episode, meeting the patient before diagnosis, following him through hospitalization, and after discharge. Ability to get individual one-to-one feedback should be additionally assessed [31]. Soliciting and utilizing the patients perspective on the student-doctor may provide additional information for student assessment and also program evaluation; though, it has been infrequently utilized.

CONCLUSION

The consolidated model of delivering the electives in clinical clerkship way would provide medical undergraduate students with experience of longitudinal patient care and ability to work with clinical teams by providing a dedicated time within the existing framework. It will also provide a successful integration of newer teaching methods. This model, with a motivated and trained faculty and students, could result in successful consolidation of student-doctor method of training in Indian medical colleges.

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