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Simulated history taking and examination as a part of early clinical exposure in undergraduate medical education at the University of Moratuwa: A case study

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I. THE EARLY CLINICAL EXPOSURE PROGRAM

According to a large body of research, early clinical exposure and simulation-based learning are beneficial for medical students in many ways, hence the University of Moratuwa has used these concepts together in the MBBS program (Peries et al, 2024). It allows students to develop their thinking, communication, clinical reasoning, and room for trial and error (Krajic, 2003). The faculty has developed a spirally integrated, simulation-based program named Early Clinical Exposure (ECE) for students from 1st year onwards to facilitate step-by-step, yet continuous mastering of concepts and skills of history-taking and examination.

5-year MBBS program of the university consists of three phases: Phase 1 (1st / 2nd years), Phase 2 (3rd / 4th years), Phase 3 (Final year). During phase 1, students learn basic sciences integrated into body system-based modules; in phase 2, students learn applied sciences integrated into clinical subjects in body system-based modules, simultaneously ward-based clinical training. Phase 3 consists of full-time clinical training. The article describes how the ECE program was designed and exposed students of phase 1 and the early stage of phase 2 to early clinical skill training via various methods, in which, simulation-based history taking, and examination were major components.

II. DESIGN OF THE PROGRAM

The ECE program was pre-tested to see the content, timing, necessity of resources, and efficacy of teaching tools. We identified the limited number of staff as a challenge at the time, and we trained demonstrators to couple with lecturers ensuring the program ran smoothly until more academics were available. In phase 1, students learned history taking and examination concerning building a rapport and gathering information using communication skills while appreciating patient privacy and concerns. The scenarios were developed and integrated into relevant modules, to cover the applicability of basic sciences in clinical practice and the basics of the 'clinical method'.

During phase 2 which spanned over 8 weeks, history-taking and examination sessions were revisited where learning outcomes were designed to reach higher skill levels. At this stage, the scenarios were designed to introduce concepts such as identifying problems, critical thinking, and clinical reasoning. Students were taught a holistic approach to medicine and to recognise patients as 'whole human beings' rather than health issues/disease entities. These scenarios were developed to ensure students follow a basic history-taking framework and stepwise method to system examination to gather relevant information on symptoms, aetiology,

complications, systemic inquiry, compliance, family history, drug history, allergies, co-morbidities, patient concerns, impact on life and fears, etc.

III. DELIVERY OF THE PROGRAM

The program was delivered via small group role-playing between students and lecturers as a series of blended learning activities. The sessions were sequenced just after the relevant basic sciences teaching session to help students understand the relevance and applicability of the knowledge into practice as early as possible. Every student was given adequate time to practice with constructive feedback from teachers and observers.

Furthermore, students were encouraged to relate the most applicable components of the history concerning the patient and his/her presentation appreciating they have different concerns, either related to or not related to the main complaint that needs to be considered. As an example, a scenario developed in the respiratory module on 'tuberculosis', allowed students to be involved in a comprehensive information gathering and examination. Further, it also allowed students to evaluate the associated stigma affecting mental status, compliance with drugs, family support, effects on occupation, income, social interaction etc.

At the end of each examination session, videos of body system examinations were posted on Moodle followed by a small discussion forum on common abnormal signs.

IV. DISCUSSION

The ECE program allowed the students to engage in the basics of the 'clinical method' at the early stage of their training. It is well noted that early clinical exposure is widely used across Europe (80% of medical schools) (Basak et al., 2009). Even though the medical faculty of the University of Moratuwa is newly developed in a developing country, this program has assisted in targeting high standards in the quality of medical education.

ECE program also aligned with the MBBS program learning outcomes by teaching; clinical skills, patient management, communication skills, information management, critical thinking, professional values, and attitudes. This is similar to the suggestions given by Ottenheim et al. (2008), that ECE activities should be well-planned with clear learning goals. Many ECE programs in Europe are unstructured, using real patients in ward settings and observation as the main teaching tool (Basak et al., 2009). In contrast, this program uses simulation patients, blended learning methods, hands-on experience, and direct feedback.

Even though the objectives were achieved, the program is currently in the middle of an evaluation. Therefore, the exact evidence is lacking to claim that this program has achieved the intended learning outcomes. On the other hand, a study done in Iran in 2016 shows, that early clinical exposure has allowed medical students to understand the value and the integration of the subjects they learn during their early years and also has provided an opportunity to get motivated regarding their role as future doctors (Mafinejad et al., 2016). It should be noted that the program needs feedback from students and resource persons to improve it further. Additionally, data should be collected from the students after they have completed the ECE program to investigate whether the program has contributed to achieving program learning outcomes.

V. CONCLUSION

Simulation is used in the Faculty of Medicine, University of Moratuwa to teach skills needed for students to take a proper history and to examine a patient before commencing ward-based learning. This spirally-integrated early clinical exposure with specially selected important case scenarios incorporated into body system-based modules in basic and applied sciences improves student preparedness for ward-based clinical training. It also provides an opportunity to improve soft skills, which contributes to achieving program learning outcomes of the degree. We plan to review and then expand and develop the program in the future with proper feedback taken at different levels.

Notes on Contributors

Nadhee Peries has planned this curriculum component, developed the program, and contributed to executing it. As the first author, she has drafted, edited, and finalised the paper. Nadeeja Samarasekara, Inuka Gooneratne, Niroshan Lokunarangoda, Ushani Wariyapperuma, and Senaka Pilapitiya contributed to developing the program to improve it further with relates to the content. They were involved in planning the program, writing the simulation scenarios, and conducting sessions. They also reviewed and improved the drafted paper. Mihara Silva contributed to arranging logistics at the planning stage and provided inputs on delivery methods. She also supported writing the paper by formatting and proofreading. Nandalal Guneratne was involved as a supervisor who conceptualised the idea of simulation-based learning in our MBBS program and guided the execution of the lessons in several steps: writing up the lesson plan, developing learning outcomes, and executing the teaching-learning method. All the authors have read and approved the drafted paper.

Ethical Approval

Specific ethical approval was not applicable as this was a part of the routine curriculum development process of the MBBS program which was approved and expected to be executed by the faculty. There is no data collection involved.

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Declaration of Interest

There are no conflicts of interest, specially regarding financial, consultant, institutional, and other relationships that might lead to bias or a conflict of interest.

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