

## **A Three-step Formative Assessment Model for Rehabilitation Medicine Postgraduate Programme Clinical Skills Training**

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The stepwise formative assessment scheme was introduced into the Rehabilitation Medicine Postgraduate programme beginning from theory assessment to application of clinical skills on simulated and real patients to enable students or trainees to understand and competently apply theoretical knowledge to clinical practice. Formative assessment is intended to foster learning and assist students to develop under conditions that are nonthreatening. A key feature of formative assessment is to provide feedback and proper guidance to trainees on how to enhance performance.

In this study, year 1 postgraduate students or trainees of Rehabilitation Medicine (n=9) were evaluated. The study was divided into three intervention phases. In Phase II, trainees were given educational materials on different specific clinical skills such as the Montreal Cognitive Assessment (MOCA), neurological examination of spinal cord injury based on ISNCSCI-motor examination, and GAIT assessment. Phase II was divided into three steps, namely: 1) an applied pre- and post-theoretical quiz on which trainees must achieve 80% and above as a passing mark; 2) trainees conduct a clinical examination on a simulated patient after receiving the educational material; and 3) assessment of trainees using real patients after a month's assessment with the simulated patients. Phases I and II were conducted for approximately within three months of the intervention. All the assessments were conducted for 15 minutes, including the debriefing session. In Phase III, further evaluation will be conducted based on a focus group interview (FGI). To date, Phases I and II of the clinical assessment have been completed.

Results have shown that trainees had improvement in terms of the passing rate for both the theory and clinical assessment parts. The post- theoretical quiz assessment showed that 66.7% passed compared to 11.1 % in the pre-theory test. Meanwhile, for the clinical assessments of ISNCSCI, MOCA and GAIT assessments, results show significant statistical differences of passes between the simulated and real patient ( $p<0.05$ ). Overall, the results showed significant improvement in clinical competency for the trainees within three months of Phase I and Phase II intervention. In addition, the results allow us to identify weak trainees for greater guidance during Year 1 to improve their clinical competency before their professional exams and able continue to Phase II postgraduate clinical training. The study also

showed a feasible duration of formative assessment intervention to achieve satisfactory clinical competency which is perceived to be a practical approach towards structured clinical teaching and learning.

*This project is supported by RU002A-2016 grant under UM-LiTeR Grant of 2016.*