Abstract

Simple learning tools to improve clinical laboratory practical skills training

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Context and setting

In Ethiopia, clinical laboratory education started in 1954 at the Pasteur Institute (Institute de Pasteur), which is now the School of Medical Laboratory Sciences in Addis Ababa University College of Health Sciences. The school offers BSc and Masters programmes in Clinical Laboratory Sciences. This project was implemented in the undergraduate programme.

Why the idea was necessary

Proper execution of clinical laboratory tests is essential in assisting physicians to make appropriate decisions. A misdiagnosis or error that results from deficient laboratory skills can have a significant negative impact on patient treatment outcomes. Health professionals who rely on these tests have concerns about the competence of medical laboratory science graduates. Surveys of faculty and students, as well as observation of practical training, previously found that competencies were not well defined and detailed task descriptions did not exist. Consequently, teaching was inconsistent and students' skills acquisition varied widely. We hypothesised that introducing standardised practical learning guides and assessment checklists would contribute to addressing this problem.

What was done

Firstly, the faculty team attended a workshop on instructional materials development presented by Jhpiego Ethiopia. Then, using results from structured questionnaires and interviews with instructors and students, a standardised learning guide and assessment checklists were prepared by the faculty and reviewed by experts. The learning guide contains objectives for the skills being taught, scenarios and instructions for the skills to be performed, required materials, and time allowed to finish the procedure. The assessment checklists include detailed steps for performing the skills. Pre-assigned marks for each step are provided in three different categories: 'Performed correctly', 'Attempted but not performed correctly' and 'Not performed'. The learning guide and checklists were introduced in haematology practical sessions. First they were distributed to instructors and third-year medical laboratory students prior to the first practical session to familiarise them with the skills to be performed. Instructors used the learning guides and assessment checklists consistently throughout the course.

Feedback from instructors and students was collected to assess their perceptions of, and learning experiences with, the new tools.

Results and impact

Baseline evaluation of students showed that 73% were not fully familiar with the practical skills after the previous training. Fifty-eight per cent of students responded that instructors did not use consistent procedure manuals and only 42% felt that the existing practical sessions would help them to achieve competence. Sixty-three per cent of the students claimed that practical skills assessment methods were not clear, 58% felt they were not fair and 90% responded that instructors did not consistently use checklists for assessing practical skills. After introduction of the new tools, 87% of the students responded that these were very specific and effective for learning practical skills. Both the instructors and students agreed that checklists were appropriate for assessing detailed activities objectively and reduced bias. However, a few instructors thought that using the checklists was time consuming.

Future plans include assessing long-term retention of skills acquired using the new tools.

AJHPE 2013;5(1):46. DOI:10.7196/AJHPE.198