Borderline Regression Methods in Standard Setting for OSCE Examinations

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Background: Absolute standard setting methods have been used in UK medical education for some time and it has been highlighted as good practice that the pass marks for performance based assessments should not be predetermined, but differ between examinations based on standard setting.¹ This study describes a pilot study which explored the impact of using the borderline regression method for standard setting in an OSCE.

Method: In the OSCE, students were assigned a mark (out of 50) using a checklist and a global feedback judgement (0=clear fail, 1=borderline, 2=clear pass, 3=excellent). The percentage grade was then plotted against the global judgement and a linear line of best fit produced. The pass mark is where this line crossed the borderline judgement.

Results:

177 students sat the OSCE (11 were excluded due to incomplete global judgements). According to this regression method the pass mark for this exam should have been set at 45% (rather than the standard university 40% pass mark) which would have resulted in two additional fails (21.7% versus 22.9%).

More work is required to determine why students assigned as 'clearly failed' have passed and those assigned as 'clearly passed' have failed. Several changes were made to the relative weightings of the OSCE assessment checklist following this study.

Discussion

This type of review can be used when reviewing the appropriateness of OSCE marking checklists. Further investigation is needed prior to introducing a variable pass mark using these regression methods.

References

1. PMETB. Developing and maintaining an assessment system – a PMETB guide to good practice. 2007