A REVEALING LOOK AT MEDICAL STUDENTS' PERFORMANCE IN THEIR FIRST CLINICAL YEAR: WHAT DOES IT MEAN FOR THE LONG CASE?

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INTRODUCTION

In the University of Malaya, first clinical year (Year 3) Exam consists of 4 components. Component A is Continuous Assessment (CA). Components B (Theory), C (Long Case) and D (OSCE) are components of the final exam.

The **purpose** of this study was to examine medical students' performance in Year 3 Exam. The **objectives** were:

(i) to explore possible relationships between (a) students' overall performance and their performance in each of the 4 exam components, (b) students' performance in CA and their performance in each component in the finals, (c) students' performance in Component B and Components C and D, and

(ii) to conduct further analysis on the performance of students who failed the exam.

METHOD

- Data for this study were obtained from the Year 3 Exam (main) for the Academic Session 2011/2012.

- The study population comprised 219 medical students who took the Year 3 Exam in March 2012.

- Raw score for each exam component was converted to 100%.

- Percentage contributions of each component towards the aggregate score were: Component A (40%), Component B (30%), Component C (15%) and Component D (15%).

- A candidate passed the Year 3 Exam if he/she obtained an aggregate score of ≥50% and ≥45% in each component.

- Retrospective analyses of students' performance in the exam were conducted using SPSS.

- Pearson's correlation coefficients were computed to determine if significant relationships existed:

  (i) between aggregate score and scores of each of the exam component, and

  (ii) betweeen scores of the exam components.

- The procedure was repeated for the 57 candidates who failed the exam.

- A correlation matrix was generated (Table 1).

- Analysis of failures in the exam components for this group was also conducted (Table 2).

RESULTS

➢ There were strong positive correlations between aggregate scores and CA, theory, long case and OSCE scores, with Pearson correlation coefficients (r) of 0.823, 0.862, 0.710 and 0.735 respectively, at $p<0.001$.

➢ Correlations between CA scores and theory, long case and OSCE scores ranged from moderate to low, with r=0.654, r=0.411 and r=0.450 respectively, at $p<0.001$.

➢ Correlations between theory score and long case score was low (r=0.387) while that between theory score and OSCE score was moderate (r=0.635), at $p<0.001$.

➢ For the **failure group**, strong correlations only existed between aggregate score and CA and theory scores (r=0.816, r=0.771) respectively, at $p<0.001$.

➢ No significant correlation was found between CA and long case score.

➢ Correlation between theory score and long case score was also not significant.

Table 1: Correlation matrix

	#Aggregate score	Continuous Assessment	Theory	Long case	OSCE
Aggregate score	1.000 (1.000)				
Continuous Assessment	0.823*** (0.816***)	1.000 (1.000)			
Theory	0.862*** (0.771***)	0.654*** (0.555***)	1.000 (1.000)		
Long case	0.710*** (0.245**)	0.411*** (0.081)	0.387*** (-0.281)	1.000 (1.000)	
OSCE	0.735*** (0.547***)	0.450*** (0.266**)	0.635*** (0.524***)	0.419*** (-0.258**)	1.000 (1.000)

Note: Correlation coefficients for the failure group (n=57) are shown in brackets; ***$p<0.001$; **$p<0.05$; #Aggregate score is NOT an exam component; α= 0.725 for the 4 exam components

Table 2: Analysis of failure by component(s) among candidates who failed (n=57)

Component(s) failed	B	C	D	B&C	B&D	C&D	B&C&D
No. of students with Aggregate score ≥50%	11	35	14	3	3	6	1

Note: No failure for Component A

➢ Of the 57 candidates, only 9 failed to achieve an aggregate score of 50%.

➢ The remaining 48 candidates failed in either Components B, C or D or > one component.

➢ 35 candidates failed the exam just because they failed the long case.

CONCLUSION

❖ Students whose overall performance was good did well in CA as well as the finals.

❖ Students who only performed well in CA did not do so well in the finals, in particular the clinical components (long case, OSCE).

❖ Students might have performed well in theory but still lack clinical skills. This is revealed particularly in the long case results.

❖ The poor performance of Year 3 medical students in the long case needs to be addressed.

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Aims

In the University of Malaya (UM), Year 3 (first clinical year) Examination consisted of four components. Component A was continuous assessment (CA). Components B (theory), C (long case) and D (OSCE) were components of the final examination. The purpose of this study was to examine medical students' performance in the Year 3 Examination. Specifically, the objectives were: (i) to explore possible relationships between (a) students' overall performance (indicated by the aggregate score) and their performance in each of the four examination components, (b) students' performance in CA and their performance in each component in the finals, (c) students' performance in Component B and Components C and D, and (ii) to conduct further analysis on performance of students who failed the examination.

Methods

The study population comprised 219 medical students who took the Year 3 Examination in March 201?. Raw score for each examination component was converted to 100%. Percentage contributions of each component towards the aggregate score were: Component A (40%), Component B (30%), Component C (15%) and Component D (15%). A candidate passed the Year 3 Examination if he/she obtained an aggregate score of $\geq 50\%$ and $\geq 45\%$ in each component. Retrospective analyses of students' performance in the examination were conducted using SPSS. Pearson's correlation coefficients were computed to determine if significant relationships existed between aggregate score and scores of each of the examination component, as well as between scores of the examination components. A correlation matrix was generated. The procedure was repeated for the 57 candidates who failed the examination. Analysis of failures in the examination components for this group was also conducted.

Results

There were strong positive correlations between aggregate scores and CA, theory, long case and OSCE scores, with Pearson correlation coefficients (r) of 0.823, 0.862, 0.710 and 0.735 respectively, at $p<0.001$. Correlations between CA scores and theory, long case and OSCE scores ranged from moderate to low with $r=0.654$, $r=0.411$ and $r=0.450$ respectively, at $p<0.001$. Correlations between theory score and long case score was low ($r=0.387$) while that between theory score and OSCE score was moderate ($r=0.639$) at $p<0.001$. For the failure group, strong correlations only existed between aggregate score and CA and theory scores ($r=0.816$, $r=0.771$) respectively, at $p<0.001$. No significant correlation was found between CA and both long case and OSCE scores. Correlation between theory score and long case score was also not significant. Of these 57 candidates, 9 failed to achieve an aggregate score of 50%. 48 failed in either Components B, C or D. 35 failed just because they failed the long case.

Conclusion

Students whose overall performance was good performed well in CA as well as the finals. However, students who only performed well in CA might not do so well in the finals, in particular the clinical components (long case, OSCE). Students might have performed well in theory but still lacking in clinical skills. This is revealed particularly in the long case results. The poor performance of Year 3 medical students in the long case needs to be addressed.