

BACKGROUND

The Objective Structured Clinical Examination (OSCE) is the common method to assess the clinical skills competence in undergraduate medical school in Indonesia. This study have shown evidence of validity and reliability. So far, reliability assessment of OSCE using Generalizability Theory (G-Theory) is not common in Indonesia. The aims of this study were to analyze the OSCE reliability in the end of the fourth year on medical students using G-Theory to improve the clinical competence assessment in our school for quality improvement.

METHODS

An observational cross-sectional study was conducted at Islamic Malang University (UNISMA) Faculty of Medicine in Indonesia. An OSCE with 79 fourth-year medical students in UNISMA medical school was conducted in the fourth year as a summative end of career final examination. There were 12 exam version in 12 station. The exam were conducted for 7 days, with 2 session per day (morning and afternoon). Students were assessed in two exam/stations for the first day until the seventh day except in fourth day and sixth day only one exam/station. Each exam/station represent one topic competention. The length of the station were 15 minutes. EduG was used to run G-Theory analysis.

RESULTS

The reliability of the OSCE is $G = 0.45$. From the G table shows that the source of error was the interaction between the students and station. There is no source of error resulted from 'days' facet. From the school record shows that all the examiner has been trained and being rater more than once. There were no first-timer rater.

OSCE



1. Day 1 OSCE topics filariasis and infus
2. Day 2 OSCE topics konjungtivitis and hecting
3. Day 3 OSCE topics tinea cruris and depression
4. Day 4 OSCE topic rinitis vasomotor
5. Day 5 OSCE topics THA and hiperlipidemia
6. Day 6 OSCE topic status asmaticus
7. Day 7 OSCE topics ventrikel fibrilasi and abortus spontan

G Study Table
(Measurement design M/HS)

Source of variance	Differentiation variance	Source of variance	Relative error variance	% relative	Absolute error variance	% absolute
M	11.69676					
		H			(0.00000)	0.0
		S			0.16368	1.1
		MH	(0.00000)	0.0	(0.00000)	0.0
		MS	14.16775	100.0	14.16775	98.9
		HS			(0.00000)	0.0
		MHS	(0.00000)	0.0	(0.00000)	0.0
Sum of variances	11.69676		14.16775	100%	14.33143	100%
Standard deviation	3.42005		Relative SE: 3.76401		Absolute SE: 3.78569	
Coef_G relative	0.45					
Coef_G absolute	0.45					

Grand mean for levels used: 71.98369
Variance error of the mean for levels used: 0.49528
Standard error of the grand mean: 0.70376

CONCLUSION

The reliability of this OSCE is consider low. One of the most possible source of error is poor design of the rubrics. Using GT to analyze shows us that this method is able to pin-point the source of error. Therefore, the improvement of the assessment quality in the future could be done in better oriented.

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