A pilot project to introduce the multiple mini interview (MMI) at a Borneo medical school: The universiti Malaysia Sabah experience- a cross-sectional study

ABSTRACT

Introduction: The Multiple Mini Interview (MMI) demonstrates efficacy and superiority over traditional medical interviews in assessing non-cognitive domains during the recruitment of medical undergraduates. At Universiti Malaysia Sabah (UMS), a five-station MMI was piloted in 2019, featuring a mix of three examiner-driven stations (assessing professionalism, ethics, and motivation to study medicine), and two role player-driven stations (assessing empathy and science communication specifically, and communication skills in general). *Methods:* 260 candidates were grouped into two separate geographical groups – urban and suburban/rural. Descriptive analysis, skewness and kurtosis were performed for normality assessment, whereas Cronbach's alpha, McDonald's omega, and Greatest lower bound assessed internal consistency. For validity measures, correlations were calculated between scores for separate stations, overall scores, urban and suburban/rural status. Also, exploratory factor analysis was performed on the five stations as validity measures. Difficulty and discrimination indices were calculated as quality measures. Qualitative analysis was performed on "red flag" comments detailing grossly unsuitable candidates. *Results:* Role-player-driven stations yielded more red flags than examiner-driven stations. The three examiner-driven stations were significantly and moderately correlated (rho between 0.602 and 0.609, $p < 0.001$). The Empathy role player-driven station was not correlated with two examiner-driven stations and only weakly correlated with the Ethics examiner-driven and the Science Communication role player-driven station. Factor analysis suggests a three-factor model. The two role player-driven stations stood as independent factors, and the three examiner-driven stations coalescing as one factor provided the best explanatory model. Quality measures suggest all five stations had suitable discriminatory properties (all >0.530), whereas the stations were distributed equally in difficulty index. *Conclusion:* The UMS MMI has identified specific skillsets that may be in short supply in our incoming medical students. Also, it illustrates the yawning gap between academic knowledge and 'translational' scientific knowledge and communication skills.