Assessment of Practical Science Communication Skills as a Core Competency of Admission to Undergraduate Medical Programmes: Nationwide Outcomes and Associated Factors

Nicholas Pang*, Jiann Lin Loo, Yusuf Hj Ibrahim, Pasupuleti Visweswara Rao, Fairrul Kadir, Mohd Saffree Jeffree

Faculty of Medicine and Health Sciences, Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah, Malaysia

*Corresponding author: nicholas@ums.edu.my

ABSTRACT

Introduction: Interprofessional scientific communication skills are an essential part of the medical profession. Multiple research suggests poor interprofessional communication has direct correlations with poor patient outcomes. As part of the inaugural Multiple Mini Interview (MMI) at Universiti Malaysia Sabah, a 5-minute station on science communication was introduced, assessed on three domains – logical thinking, communication skills, and general impression. This station featured a panicky nurse calling a doctor to get them to calculate doses of a medication, using only upper primary school-level arithmetic and knowledge of ratios. **Methods:** 255 candidates, grouped into 3 separate geographical groups – Klang Valley, non-Klang Valley, and Borneo – participated in the MMI featuring a science communication station. Candidates were graded in the abovementioned three domains, and correlations were calculated between scores and various sociodemographic factors, with an objective written basic science test, and with overall scores. Also, quantitative analysis was done of the "red flag" comments for candidates deemed unsuitable for the practise of medicine. **Results:** The average scores for West Malaysia for logical thinking scores were higher than Borneo, with non-Klang Valley scores (4.1) significantly higher than Klang Valley (3.6). Communication scores were also significantly lower in Borneo compared to West Malaysia. General impression scores hence also showed a discrepancy between West Malaysian and Bornean scores. There were a total of 8 red flags, with reasons ranging from gross miscalculation with misplaced confidence, to nervous breakdowns while performing calculations. **Conclusion:** The present study showed that there is a distinct separation of science communication scores between geographic regions. Also it illustrates the yawning gap between academic knowledge and "translational" scientific knowledge. The results illustrate the need for medical curricula to boost resilience and translational computational skills in medical graduates who will be working in environments that demand usual abilities under unusual and trying circumstances.

Keywords: Interprofessional communication, Logical thinking, Communication skills