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Clinical communication skills: learning outcomes among first year medical students are consistent irrespective of participation in an interview for admission to medical school

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Abstract

Background: Although contentious most medical schools interview potential students to assess personal abilities such as communication.

Aims: To investigate any differences in clinical communication skills (CCS) between first year students admitted to UQ medical school with or without an admissions interview.

Methods: A retrospective analysis of 1495 student assessment scores obtained after structured communication skills training (CCS) between 2007 and 2010.

Results: The average assessment score was 3.76 ([95% CI, 3.73–3.78]) and adjusting for student characteristics, showed no main effect for interview ($p = 0.89$). The strongest predictor of scores was gender with females achieving significantly higher scores (3.91 [95% CI, 3.54–4.28] vs. 3.76 [95% CI, 3.39–4.13]; $p = 0.001$).

Conclusions: Data show no differences in post-training assessment measures between students who were interviewed during selection or not. Further research about the quality and retention of communications skills after training is warranted.

Introduction

The advantages of good communication skills in the clinical setting are widely recognised (Maguire & Pitceathly 2002). There is growing evidence demonstrating the effectiveness of communication skills training for medical students (Aspegren 1999; Kurtz et al. 2005). Most medical schools also conduct admissions interviews to assess the personal attributes of candidates including their ability to communicate (Prideaux et al. 2011). However despite widespread use, the personal interview has been shown to have limited predictive validity, reliability and subject to potential bias (Goho & Blackman 2006).

In Australia entry into medical school is based upon a combination of academic measures and various forms of admissions interviews (Wilson et al. 2012). In 2009, after an internal review of admissions criteria, The University of Queensland (UQ) discontinued the interview portion of its selection process (Wilkinson et al. 2008). Concerns were raised that those students admitted without the benefit of an admissions interview may have poorer communication skills. The aim of this study was to compare performance in clinical communication skills (CCS) after structured training between medical students admitted with or without the admissions interview. Ethics approval was provided by The UQ, Behavioural and Social Sciences Ethical Review Committee.

Methods

Setting

Students enter the UQ medical school via a graduate or school leaver pathway and as a domestic or international student. The admissions criteria is based upon prior academic performance and a standardised medical admissions test score (www.som.uq.edu.au). Prior to 2009 selection for the domestic graduate students, included an admissions interview. The semi-structured interview, designed to assess eight personal attributes considered salient to the practice of medicine including communication ability, was conducted by pairs of pre-trained and qualified staff members (for further details of the interview see Wilkinson et al. 2008).

Clinical communications skills course

The CCS program, delivered across the first two years of the four-year medical program, was unchanged during the study period. The program consists of six modules and delivery involves large group lectures (to introduce core theoretical foundations) and small group skills-based tutorials (n ¼ 10 students). Consistency across tutorials is managed through the use of multi-media technology delivery, tutor manuals, standardised evaluation instruments and student fact sheets.

Outcome measure

CCS assessment scores (range 1–5, 1 ¼ not acceptable to 5 ¼ excellent), were calculated as a mean of a 17-item assessment instrument of interview skills based upon biopsychosocial principles (Kurtz et al. 2005). The instrument evaluated key CCS such as active listening, warmth and rapport, eye contact, appropriate questions, empathic responding, cue identification. The data used for this study was the first video recorded assessment of CCS, via a standardised 10-min role play, at the completion of the first training module. The internal consistency of the 17-item assessment instrument was found to be highly reliable (17 items; Cronbach's α 0.93).

Participants

Participants included 1495 first year UQ medical students enrolled between 2007 and 2010. We compared CCS assessment scores between three groups by interview status. The interview group included domestic graduate students enrolled 2007–2008 (n ¼ 580); the post-interview group included domestic graduate students enrolled in the two years after the interview was discontinued (n ¼ 413); and the noninterview group included all school leaver students and the international students (n ¼ 502; 2007–2010).

Statistical analysis

Differences between groups in proportions were tested using chi squared tests and in means using analysis of variance (ANOVA). We used Kruskal–Wallis tests to examine differences between the three groups on each of the 17 scaled items of the assessment instrument. ANOVA, adjusting for student characteristics, was used to test the relationship between interview status and mean CCS assessment scores (95% confidence intervals, F -values, p values, with effect sizes reported). The analysis was performed using SPSS 21 (SPSS Inc, Chicago, IL USA).

Results

A summary of student characteristics and CCS scores by interview group is given in Table 1. Kruskal–Wallis tests revealed no significant differences on the individual items of the assessment form between groups. The mean CCS score was 3.76 (CI, 95% 3.73–3.78). Inspection of the means showed highest scores amongst the non-interview group (0.02 units higher). Subsequent ANOVA, adjusting for student characteristics, showed no statistically significant main effect for interview (p ¼ 0.89) or age (p ¼ 0.56). There was a

significant but small effect for gender ($F(1,1487) = 34.29, p < .001, \eta^2 = 0.02$) with females reporting slightly higher scores (3.91 [CI, 95% 3.54–4.28] vs. 3.76 [CI, 95% 3.39–4.13]); and English speakers (primary language at home) achieving 0.10 units higher (3.88 [3.52–4.25], $F(1,1487) = 7.35, p < .01, \eta^2 = 0.01$).

Discussion

The discontinuation of the admissions interview at UQ offered a unique opportunity, without the ethical constraints associated with controlled trials, to compare communication skills between students admitted to medical school with or without a selection interview. With statistical control for age, gender and primary language, we were able to report that within four months of admission to the medical program, there were no differences in student performance, irrespective of participation in an interview. In fact, gender was a more significant predictor of communication skills scores than a selection interview.

We report the findings from a natural experiment with associated methodological limitations. The cross-sectional design does not allow interpretation of causality and may reflect cohort effects. However, we noted no significant cohort effects (age, international status, or entry pathway) and the differences reported in communication by gender and primary language spoken have been previously discussed in the literature (Chur-Hansen et al. 1997; Wu & McLaughlin 2013). Given the unique circumstances of the study, there may be concerns regarding the generalizability of the findings. The large sample size ($n = 1495$) and inclusion of data on multiple cohorts of students should contribute to moderating such concerns however we do not specifically make any claims beyond the UQ cohort.

As our study did not assess baseline communication skills upon medical school admission, we were unable to assess differential skills by cohort at this time point. If there were cohort communication ability differences at baseline, it is likely, based upon the growing body of supportive evidence (Aspegren 1999; Kurtz et al. 2005) these were remediated through formal skills training. Our results do not answer questions about the retention of the clinical communication skills after training (Dahlin et al. 2012), or the impact of removing the interview on a broader range of personal qualities ostensibly measured by the personal interview.

Our data suggests that the withdrawal of admissions interviews did not negatively impact on communication skills amongst entry level medical students. This paper contributes evidence to the ongoing debate about the contribution of the admissions interview in selecting suitable candidates for entry into medical school. Further prospective studies are needed to confirm the impact of removing the interview on a broader range of personal qualities measured by the personal interview.

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