

Receptivity of Singaporean Patients to Medical Students from Private and Public General Practice & Specialist Outpatient Clinics



Polyclinics
SingHealth



National
University
Hospital

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Introduction

- Cost-containment and Diagnosis Related Group (DRG) funding have limited hospital bed expansion, shortened length of stays & shifted inpatient care to outpatient clinics.
- Yet, class size of medical school enrollment has and will continue to increase.
- E.g. In NUS:
 - Past: 150 students a year.
 - Now: 250 students a year.
 - Future: 300 students a year.



Introduction

- Outpatient ambulatory clinics will become important settings for teaching of medical students to compensate for decreasing hospital inpatients.¹
- However, there is an unconfirmed perception that Asian patients are not receptive to medical students being present or examined by them during clinic consultations.

¹Dent JA. AMEE Guide No 26: clinical teaching in ambulatory care settings: making the most of learning opportunities with outpatients. Med Tech 2005;27(4):302-15.

Introduction



United Kingdom

- 98% of general practice (GP) patients felt comfortable with medical students present during consultations.¹
- Only 13% of GP patients felt that the gender of the medical student present during consultations was important.²

1. Bentham J, Burke J, Clarke J, Svoboda C, Vallance G, Yeow M. Students conducting consultations in general practice and acceptability to patients. *Med Edu* 1999;33:686-87.
2. Cooke F, Galasko G, Ramrakha V, Richards D, Rose A, Watkins J. Medical students in general practice: how do patients feel? *Br J Gen Pract* 1996;46:361-2.

Introduction



United States

- Patients attending dermatology outpatient clinics expressed willingness to allow residents take histories (93.6%) and perform physical examinations on them(87.2%).¹
 - Non-Caucasian patients in US internal medicine ambulatory clinics have rated the benefit of having a medical student present significantly lower than Caucasian patients.²
1. Crawford GH, Gutman A, Kantor J, James WD. Patients' attitudes toward resident participation in dermatology outpatient clinics. *J Am Acad Dermatol* 2005;53(4):710-2.
 2. Adams DS, Adams LJ, Anderson RJ. The effect of patients' race on their attitudes toward medical students' participation in ambulatory care visits. *Acad Med* 1999;74(12):1323-6.

Introduction



Australia

- 90.4% of GP patients consented to the involvement of medical students in a consultation.

1. Salisbury K, Farmer EA, Vnuk A. Patients' views on the training of medical students in Australian general practice settings. *Aust Fam Phy* 2004;33(4):281-3.

Introduction



- However, there has been no study on Asian patients' acceptability of medical student presence during medical consultations in ambulatory settings.
- Moreover, most studies on the subject were conducted without studying the effects of an actual personal experience.



Aims



To study the patient acceptability of medical students during medical consultations:

1. In general practice, polyclinic and hospital outpatient settings in Singapore, a multi-racial Asian country;
2. Before and after a consultation where a medical student is actually present.

Methods

Study 1

Study design

- Cross-sectional survey before consultation.

Study population

- Patients attending 76 teaching private GPs, nine teaching public polyclinics and a teaching public hospital's specialist outpatient clinics (n=4,142).



Methods

Study 2



Study design

- “Before and after consultation” survey where a medical student is actually present.

Study population

- Patients attending 76 teaching private GPs (n=1,252).

Methods



- Measurement
 - Self-administered questionnaire.
 - Translators provided when needed.
- Sampling method
 - For general practice (n=1,252) and hospital (n=1,478) settings, all patients attending a half-day clinic session was interviewed.
 - For polyclinics, patients were randomly sampled and recruited at registration (n=1,412).
 - All main specialties were sampled in the hospital.
 - Parents or guardians were surveyed if patient was less than 21 years old.

Statistical analysis

- Standard error of proportions:

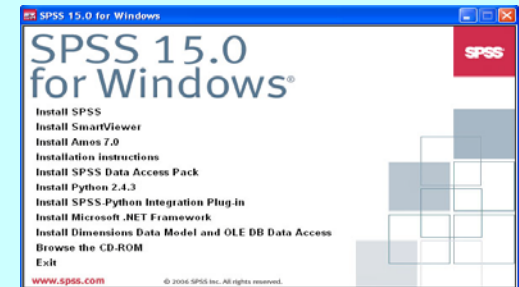
$$\sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$$

- Bi-variate analysis:

- *McNemar test for differences in proportions before & after consultation.*

- Multi-variate analysis:

- *Multiple logistic regression.*



- All reported p-values are two-tailed and statistical significance was set at $p < 0.05$.

Results

Response Rates

- Private GPs: 82.4%
- Polyclinics: 80.4
- Hospital: 80.0%

Study 1

Socio-Demographic Profile

- Age: Median age group = 31 - 40 years.
- Gender: Male : Female = 49.4% : 50.6%
- Ethnicity:
 - Chinese: 66.3%
 - Malay: 16.2%
 - Indian: 12.8%
 - Others: 4.7%
- Housing type:
 - 1-3 room HDB flat: 20.5%
 - 4-5 room HDB flat: 60.5%
 - Condominium: 10.7%
 - Landed property: 8.3%

Study 1

Results (1)

- Only 80.2% [$\pm 0.6\%$] of patients felt comfortable with medical students **being present during consultations.**
- Only 79.2% [$\pm 0.6\%$] felt comfortable with medical students **interviewing** them.
- Only 60.2% [$\pm 0.8\%$] felt comfortable with students **examining** them.

Study 1

Results (2)

- 65.2% of all patients felt that medical student teaching improved the **quality** of consultations.
- 68.4% felt that medical student teaching prolonged the **duration** of consultations but 28.9% felt it was shortened.



Study 1

Results (3)

- 37.6% of all patients would not allow medical students of the *opposite gender* to **interview** them and 45.3% would not allow those of the *opposite gender* to **examine** them.
- **Female patients** were less likely to allow medical students of the opposite gender to interview them (adjusted OR = 0.7 [0.6–0.8]) and even less likely to allow the students of opposite gender to examine them (adjusted OR = 0.5 [0.4–0.6]) than male patients.

Study 1

Results (4)

- Patients older than 60 years were more comfortable being examined by medical students than those below 60 years (adjusted OR = 1.6 [1.3–2.0]).
- Chinese patients were less comfortable about being examined by medical students than non-Chinese patients (adjusted OR = 0.8 [0.7–0.9]).

Study 1

Results (5)

- Patients living in flats were more likely to allow medical students to examine them than those from condominiums or landed property (adjusted OR = 1.4 [1.2–1.6]).
- 56.7% felt that medical student teaching improved their impression of their attending doctor.

Study 1

Results (6)

- Patients in private GP clinics were more comfortable with medical students being present than in public polyclinics or public hospital outpatient clinics (84.6% vs. 79.9% vs. 77.0%, $p < 0.001$).
- This difference persisted after adjusting for age, gender, ethnicity and housing type.

Study 2

Socio-Demographic Profile

- Age: Median age group = 31 - 40 years.
- Gender: Male : Female = 45.6% : 54.4%
- Ethnicity:
 - Chinese: 71.1%
 - Malay: 12.8%
 - Indian: 11.1%
 - Others: 5.0%
- Housing type:
 - 1-3 room HDB flat: 13.6%
 - 4-5 room HDB flat: 59.4%
 - Condominium: 14.5%
 - Landed property: 12.4%

Study 2

Results (1)

- Patients' comfort with medical students did not change after an actual experience (OR = 1.07 [0.79–1.45], $p > 0.05$).
- There was no change in comfort levels with medical students:
 - taking a history (OR=1.05 [0.77-1.42], $p > 0.05$) &
 - performing a physical examination (OR=1.05 [0.89-1.54], $p > 0.05$)after an actual experience than before.

Study 2

Results (2)

- Of those who **were comfortable** with students present after the consultation, their main reasons were because they were:
 - Supportive of training medical students (55.7% \pm 1.4%)
 - Felt that explanations given by their GP was better with them present (28.6% \pm 1.3%).

Study 2

Results (3)

- Of those who **were still not comfortable** with students present after the consultation, their main reasons were because of:
 - Lack of assurance of protection of their privacy (48.2% \pm 1.4%),
 - Personal anxiety (29.5% \pm 1.3%),
 - Concerns on being embarrassed (28.9% \pm 1.3%)
 - Lack of assurance of protection of confidentiality of consultation (18.1% \pm 1.1%).

Discussion



Study 1

Discussion (1)

Patients of **Asian** background appear to be **less** comfortable with medical student presence and participation during ambulatory consultations than UK, Australian and US patients.

Comfortable with medical students	S'pore	UK	Aust	US
Being present	80%	98%	90%	-
Interviewing them	79%	-	-	94%
Examining them	60%	-	-	87%

Study 1

Discussion (2)

Gender is a larger issue with Asian patients than UK patients:

UK

- Only 13% of GP patients felt that the **gender** of the medical student present during consultations was important.¹

Singapore

- 37.6% would **not** allow medical students of the **opposite gender** to **interview** them.
- 45.3% would **not** allow medical students of the **opposite gender** to **examine** them.

1. Cooke F, Galasko G, Ramrakha V, Richards D, Rose A, Watkins J. Medical students in general practice: how do patients feel? Br J Gen Pract 1996;46:361-2.

Study 1

Discussion (3)

Ethnicity is also an issue with Asian patients as with US patients:

US

•**Non-Caucasian** patients in internal medicine ambulatory clinics rated the benefit of having a medical student present **lower** than Caucasian patients.¹

Singapore

•**Chinese** patients were **less** comfortable with medical students present than non-Chinese patients.

1. Adams DS, Adams LJ, Anderson RJ. The effect of patients' race on their attitudes toward medical students' participation in ambulatory care visits. Acad Med 1999;74(12):1323-6.

Study 1

Discussion (4)

- Patients in general practice are more receptive to medical students.
- This is a good reason to use the GP setting to train medical students.

Study 2

Discussion (1)

Patients comfort with medical student did not change after an actual experience.

- This finding is contrary to other studies.^{1,2}

- Possible reasons:

- Ceiling effect: Because patients are used to medical students. Unfortunately, we did not ask if patients had prior experience with medical student teaching.

1. Coleman K, Murray E. Patients' views and feelings on the community-based teaching of undergraduate medical students: a qualitative study. *Fam Pract* 2002;19(2):183-8.
2. O'Flynn N, Spencer J, Jones R. Does teaching during a general practice consultation affect patient care? *Br J Gen Pract* 1999;49:7-9.

Study 2

Discussion (2)

- To increase acceptability of medical students among unreceptive patients, we need to implement measures to protect patient privacy, dignity and confidentiality.
- Suggested measures:
 - Inform patients the reasons for medical student presence (e.g. training the next generation of doctors).
 - Assurance from tutor *and students themselves* that all medical information will be kept confidential.
 - Inform patients that they may ask the medical student to leave anytime during the consultation if they desire privacy.
 - Be sensitive to patient's gender and ethnicity issues, especially if female and Chinese.

Strength & Limitations

Strengths

- Wide breadth of institutions sampled.
- Large sample size.
- Effect of actual experience examined.

Limitations

- Qualitative aspects not presented.
- Tutor and student views not presented.
- Prior experience with medical student teaching not captured.

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