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

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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.

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


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


Introduction

Australia

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

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% [±0.6%] of patients felt comfortable with medical students being present during consultations.

• Only 79.2% [±0.6%] felt comfortable with medical students interviewing them.

• Only 60.2% [±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% ± 1.4%)
  – Felt that explanations given by their GP was better with them present (28.6% ± 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% ± 1.4%),
  - Personal anxiety (29.5% ± 1.3%),
  - Concerns on being embarrassed (28.9% ± 1.3%)
  - Lack of assurance of protection of confidentiality of consultation (18.1% ± 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.

<table>
<thead>
<tr>
<th>Comfortable with medical students</th>
<th>S’pore</th>
<th>UK</th>
<th>Aust</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being present</td>
<td>80%</td>
<td>98%</td>
<td>90%</td>
<td>-</td>
</tr>
<tr>
<td>Interviewing them</td>
<td>79%</td>
<td>-</td>
<td>-</td>
<td>94%</td>
</tr>
<tr>
<td>Examining them</td>
<td>60%</td>
<td>-</td>
<td>-</td>
<td>87%</td>
</tr>
</tbody>
</table>
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.

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.

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.
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.


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.
Acknowledgments

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