



Can we improve the approach taken to teaching medical students about hand hygiene?

Never Stand Still

Medicine

School of Public Health & Community Medicine

Rajneesh Kaur, Husna Razee, Holly Seale

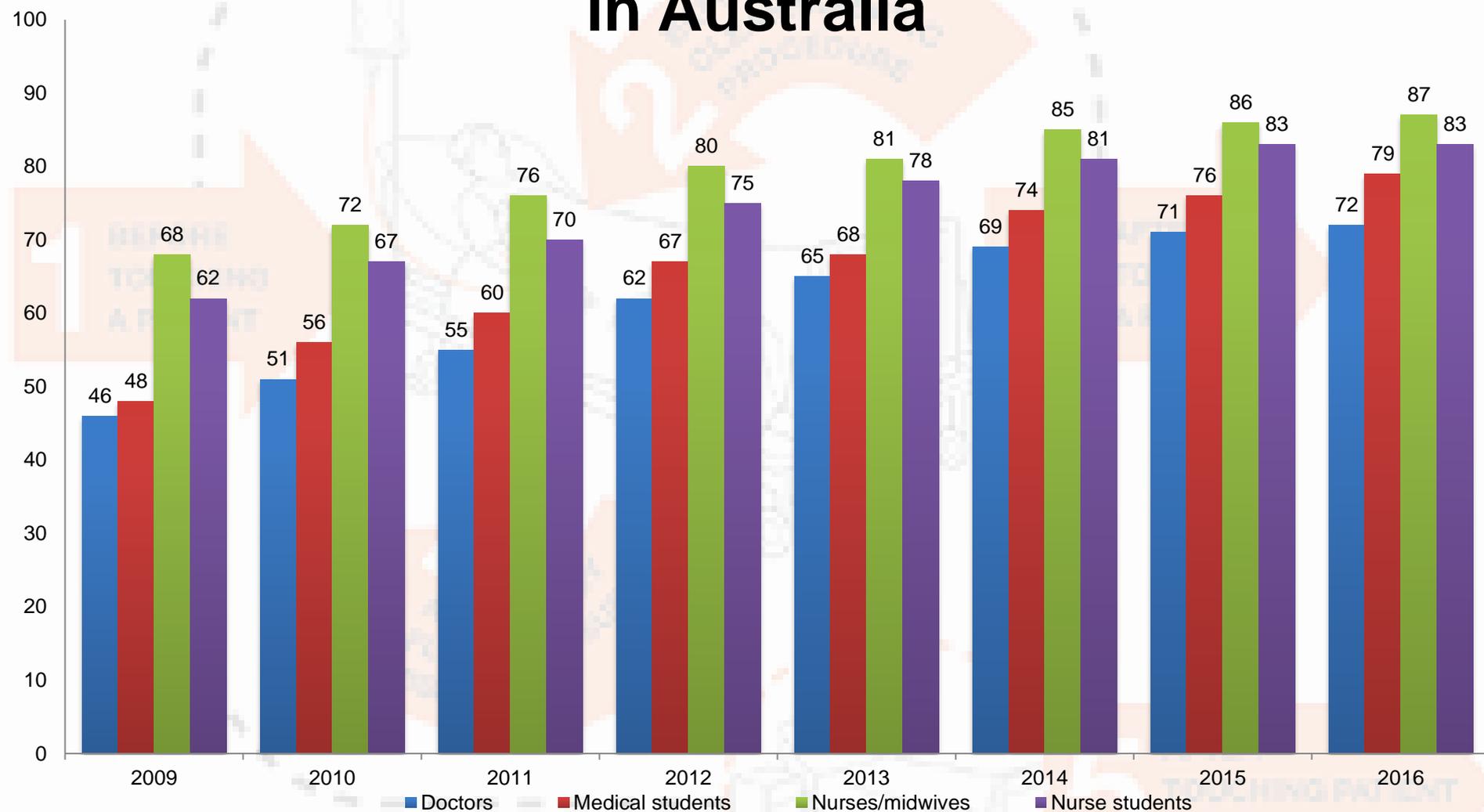
November 2016

5 AFTER TOUCHING PATIENT SURROUNDINGS

BACKGROUND

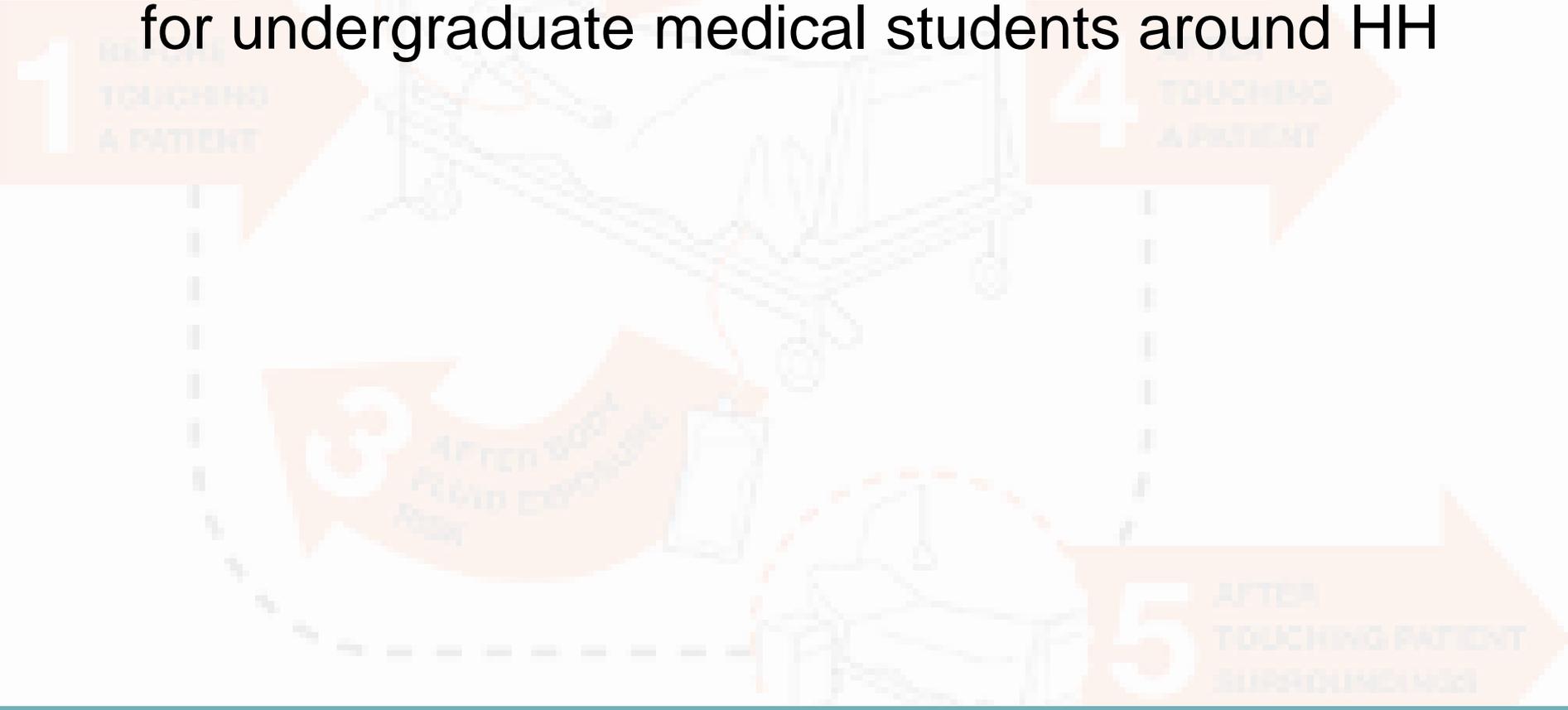
- Research conducted to date, has documented hand hygiene (HH) compliance rates for medical students ranging between 8% and 52%.
- While compliance rates have increased in recent years for medical students, they are still well below the ideal levels.
- The audit data from Hand Hygiene Australia indicate that currently rates are around 70%.
- To date, most studies have focused on trained hospital healthcare workers (HCWs) and have underestimated the role that students also have on infection control as future HCWs.

HH Compliance amongst medical students in Australia



AIM

- Develop and evaluate a new teaching approach for undergraduate medical students around HH



Three important questions

1. Why medical students?

- Future doctors and role models
- Need to establish appropriate HH knowledge/practices early in career

2. Why education?

- Addresses lack of knowledge (primary barrier)
- Prepares medical students to question bad HH practices of colleagues and seniors (another big barrier)

3. Why a new approach?

- Contextual learning.

Needs assessment

1. Literature review

- A comprehensive literature review was conducted to understand issues around low compliance of HH amongst medical students and barriers and facilitators of HH compliance amongst them.
- A review of past educational interventions targeted at improving HH compliance of medical students was also conducted.

Needs assessment

2. Examining the current approaches used to teach infection control concepts to medical students

Part A: key stakeholder interviews

- We undertook 17 in-depth interviews with key members of the undergraduate medical teaching team (including faculty staff members and clinical supervisors) and with a sample of medical students from the UNSW¹.

Part B: Survey of Australian medical school

- A questionnaire was sent to all 19 medical schools across Australia²

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What we found out

- Negative role modeling by senior doctors, and negative attitudes of students¹.
 - Students do not value the teaching around HH, nor do they find it interesting².
 - Favourable feedback was received from the interviewed medical students towards the developed scenario-based learning activity³.
- 1. Kaur R; Razee H; Seale H, 2014, 'Facilitators and barriers around teaching concepts of hand hygiene to undergraduate medical students', *Journal of Hospital Infection*, <http://dx.doi.org/10.1016/j.jhin.2014.06.006>
 - 2. Kaur R; Razee H; Seale H, 2015, 'Exploring the approaches used to teach concepts of hand hygiene to Australian medical students', *Journal of Infection Prevention*, vol. 16, pp. 162 - 166, <http://dx.doi.org/10.1177/1757177415580466>
 - 3. Kaur R; Razee H; Seale H, 2016, 'Development and appraisal of a hand hygiene teaching approach for medical students: a qualitative study', *Journal of Infection Prevention*, vol. 17, pp. 162 - 168, <http://dx.doi.org/10.1177/1757177416645345>

Contents of the new HH teaching tool

Topics	Resources	Duration
Information about HAIs and HH	Information was based on educational materials utilised by WHO	10 minutes
Practical demonstration of HH	Demonstration of actual technique and duration of HH	5 minutes
HH Scenario	SBL scenario of a medical student forgetting to carry out HH during the clinical skills session in hospital setting	15 minutes

Evaluating the developed approach

Methodology: Quantitative

Design: Before and after intervention study

Sample: 96 year 1 and 2 undergraduate medical students

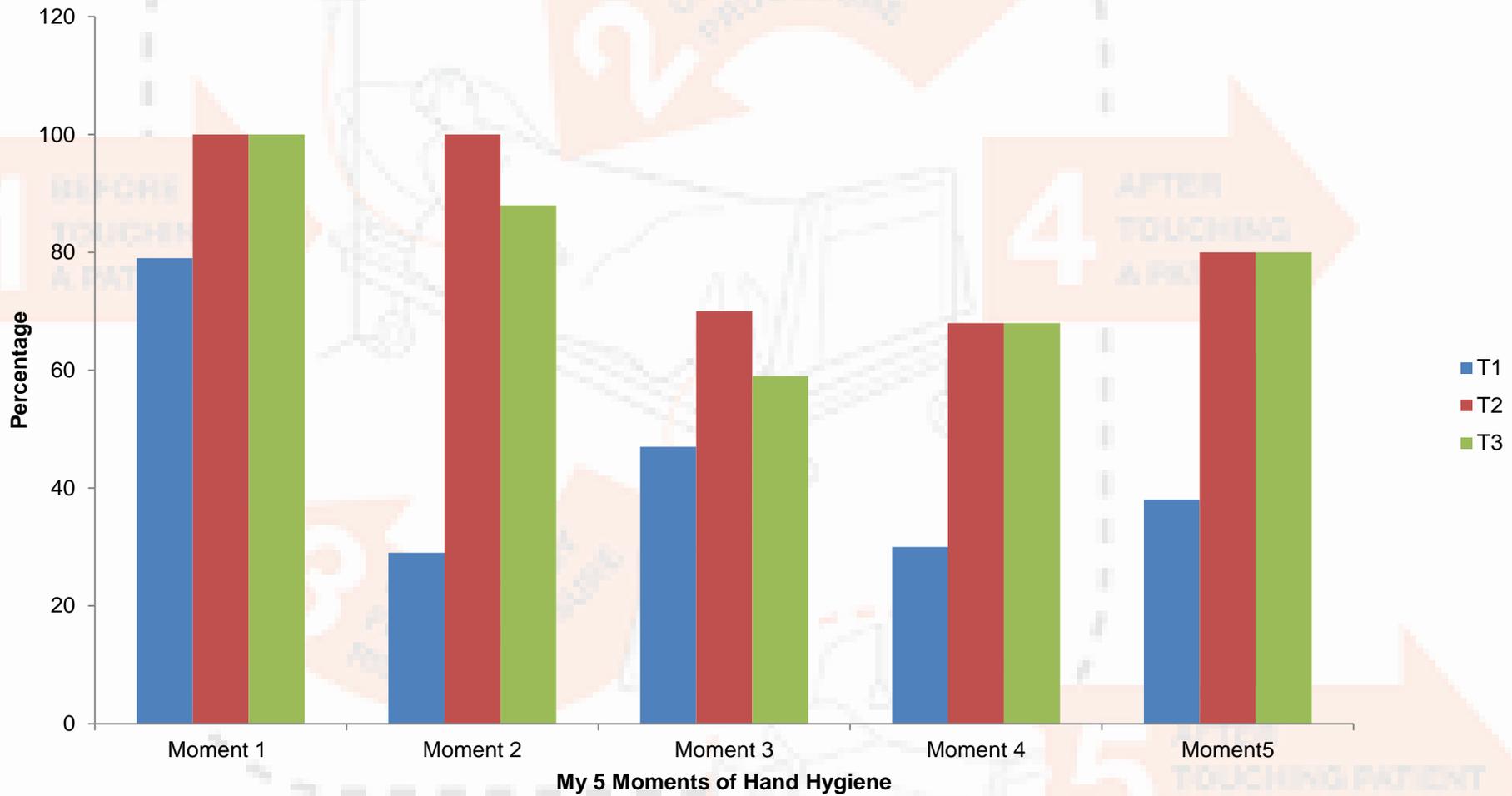
Measurement: Scores of three questionnaires at baseline, 2 weeks and 6 months compared.

Analysis: Linear mixed methods

Results: Knowledge and attitude variable mean scores over three periods of time

	Mean (95% CI)			P value
	T1 N=96	T2 N=96	T3 N=80	
Knowledge score HAIs	2.3 (2.2-2.5)	3.8 (3.6-3.96)	3.7 (3.6-3.9)	0.018
Knowledge score HH	7.9 (7.5-8.4)	9.2 (8.8-9.7)	9.1 (8.5-9.4)	0.001
Knowledge score HH materials	1.3 (1.2-1.5)	3.8 (3.6-4)	4.3 (4.1-4.6)	0.004
Knowledge score 'Five moments of HH	3.1 (2.9-3.4)	6.7 (6.5-7)	5.9 (5.7-6.2)	0.012
Knowledge score HH and HAIs	2.8 (2.7-3)	3.8 (3.6-3.9)	3.8 (3.7-3.9)	<0.001
Attitude score	48.5 (47.6-49.5)	56.2 (55.3-57.3)	54.1 (53-55.1)	0.04

Student knowledge of 'My 5 moments of HH'



Attitudes towards HH

I would feel comfortable reminding a health professional to hand wash.

Hand hygiene is a habit for me in my personal life.

Failure to perform hand hygiene in the recommended situations can be considered negligence.

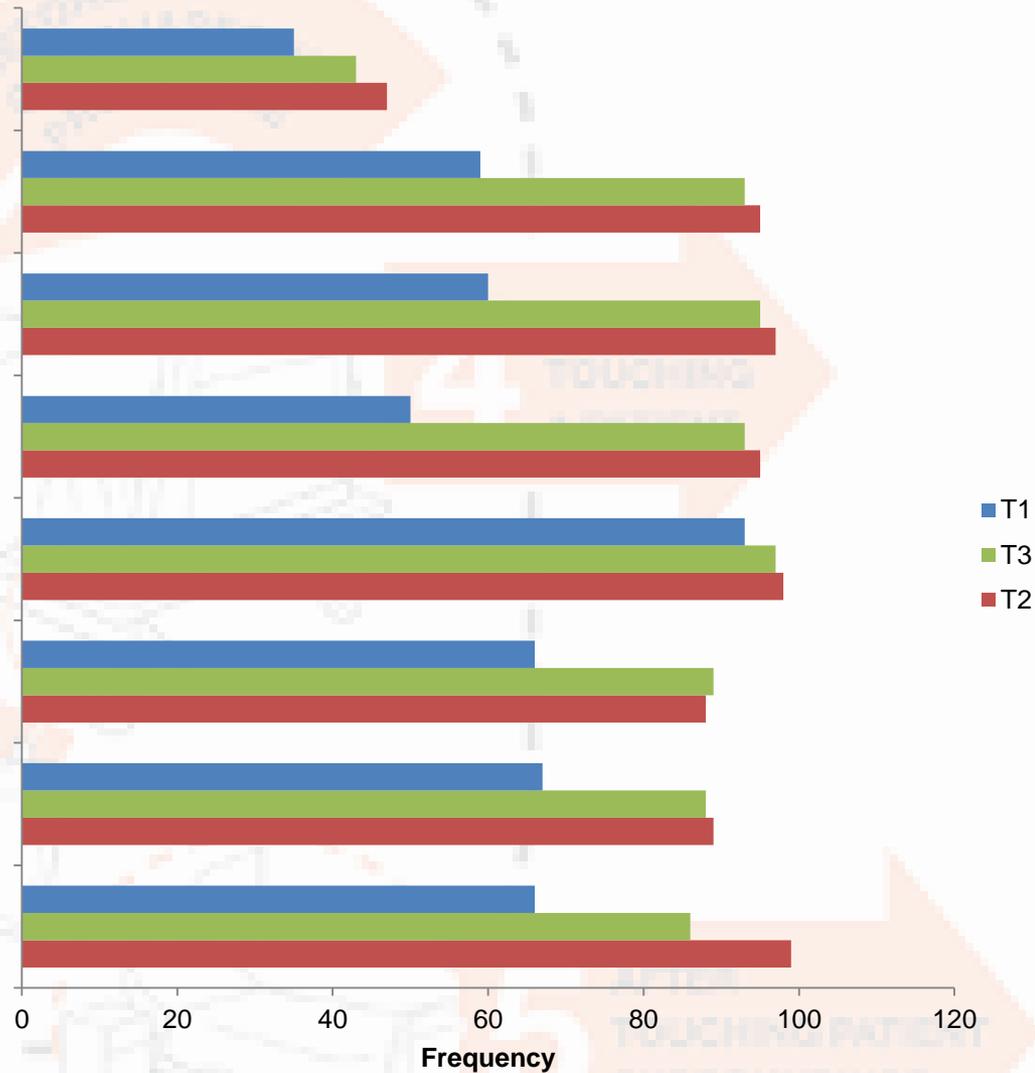
I am confident I can effectively apply my knowledge of hand hygiene to my clinical practice

Infection control is important part of a doctor's role.

Performing hand hygiene in the recommended situations can reduce medical costs associated with hospital-acquired infections.

Performing hand hygiene in the recommended situations can reduce patient mortality.

I have a duty to act as a role model for other health care workers.



Student feedback on the HH teaching session done at first follow up survey at time-period 2 (T2)

Statement (n=96)	Agree n (%)	Not sure n (%)	Disagree n (%)
I am satisfied with the amount of information is provided in the session	92 (95.8)	2 (2.1)	2 (2.1)
The information provided was not sufficient	0	9 (9.4)	87(90.6)
The information in today's session was easy to understand	94 (97.9)	2 (2.1)	0
The length of the session was too long	5 (5.2)	4 (4.2)	87 (90.6)
There were parts of the session that I didn't understand	3 (3.1)	1 (1)	92 (95.8)
The information provided was overwhelming	2 (2.1)	2 (2.1)	92 (95.8)
I trusted the information delivered in the session	93(96.9)	3 (3.1)	0
The training program in hand hygiene was clinically relevant to infection control	95 (99)	1	0

Limitations

- The participants were from year one and two from a single university medical school and were a convenience sample.
- We did not have a comparison group, so we cannot rule out other factors which might have influenced our results.
- However, the findings of the present study are based on the results of our intervention alone as there were no other formal HH educational activities that we were aware of in addition to our teaching that were occurring at the time of study for our study group.

Conclusions

- The results of this study show significant and consistent increase in knowledge around HH amongst students.
- Their attitudes towards HH also improved.
- We suggest that this educational module should be used and its impact on HH compliance of medical students should be measured in randomised studies.