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**Long term learning following teaching communication, disability
and diversity to medical students**

Running head:

Teaching communication, disability and diversity

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Abstract*Background*

Medical schools need to equip students for healthcare interactions involving disability or cultural diversity because doctors are expected to communicate with patients, despite disability or cultural differences. Teaching these topics together, and the long-term effects of such teaching, has not previously been described.

Description

Communication, disability and cultural diversity were taught to medical students beginning their clinical studies in a single three hour session. Participants received theoretical input and discussed diversity issues in small groups. All students talked with both a patient with a communication disability and a non-English speaker via an interpreter. The session's educational effects were assessed by collecting questionnaire data beforehand, immediately afterwards and an average of 31 weeks later. Additionally, focus group and interview data were collected 27 weeks and an average of 39 weeks after the session respectively.

Evaluation

Participants were very positive about this 'eye-opening' teaching, reporting learning from both process (challenging communication) and content (what it is like to live with disability or as a non-English speaker). Understanding of diversity issues and ability to describe disabilities all improved - an improvement sustained up to 39 weeks later, as did students' confidence in interviewing people with a

communication disability or where English is not a shared language. Key communication skills learnt were giving time, positioning during interactions, and using interpreters. Sustained awareness and attitude change included increased empathy, alteration in internal barriers such as cultural beliefs, and learning not to make judgments or assumptions.

Conclusions

This study demonstrated that teaching combining communication, disability and cultural diversity in a single highly experiential three hour session is effective, well-received, and results in long term change (up to 39 weeks) in medical students' reported skills, confidence and attitudes. Long term skill and attitude change after teaching on disability and diversity has not previously been reported.

Word count 299

Introduction

Equipping students to practice and communicate in healthcare contexts involving disability or cultural diversity is central to the work of medical schools. The General Medical Council (GMC) expects future medical practitioners to respect patients regardless of their lifestyle, culture, beliefs, race, colour, gender, sexuality, disability, age, social or economic status.¹ Nevertheless, medical students may have negative attitudes towards disability,^{2,3} only superficial awareness of multicultural diversity issues,⁴ and often resist engaging in discussions on 'difficult topics' such as race, gender, social class and sexual identity.^{5,6}

Doctors are expected to ensure that patients understand information and can communicate their wishes.⁷ Hence, skills for communicating with patients, whatever their disability or cultural background, are integral to undergraduate curricula.⁸ Although educational approaches vary, students value teaching on these issues,^{9,10} which can positively effect knowledge and attitudes concerning disability^{11,12} and cultural diversity.^{13,14} Opportunities to interact with disabled people are necessary for learning about and changing attitudes towards disability.¹⁵ Similarly, teaching about cultural diversity, alongside interviewing a non-English speaker through an interpreter, can change reported clinician behavior.¹⁶⁻¹⁸

Less clear is the long term effect of such teaching. All studies cited above evaluated before and immediately after teaching apart from one which also evaluated seven

weeks after teaching.¹⁷ In this study, we assessed short term (immediately after teaching) and long term (up to 39 weeks later) effects of an innovative approach to teaching communication, disability and diversity in a single session (summarized in Figure 1).

Insert figure 1 here please

Methods

This intervention (teaching session - tutors SC/NB) study assessed effectiveness using qualitative and quantitative methods. Manchester Medical School (MMS) students starting their clinical studies (year three of five years training) participated.

Participants filled in questionnaires immediately before/after the three hour session, and via email 26 weeks later. Questionnaire (Figure 2) ratings were on a six point scale (strongly agree (+3) to strongly disagree (-3)). Analysis used mean ratings with Mann-Whitney-U Test.

Four self-selected students formed a focus group (facilitators JH/TS) 27 weeks after teaching. Nineteen students then participated in semi-structured interviews (conducted by AA) 36 to 39 weeks after teaching. Interviewees were recruited by inviting two students [selected using random number tables] from each of the fifty seven student groups at MMS to reduce selection bias. Interested respondents received information by email.

The semi-structured focus group used a topic guide developed by the authors from discussion and relevant literature. Prompts allowed broader discussion of students' beliefs and attitudes. Topics explored included the effect of our teaching on students' approach, understanding and knowledge concerning communication with people with disability or who are culturally diverse.

Focus group and interviews were audio recorded with written consent and transcribed to form anonymous data for qualitative [thematic] analysis.¹⁹ The initial interview topic guide was developed from focus group analysis. Preliminary independent interview transcript analysis/category identification (AA/SC) preceded discussion to agree categories allowing interview topic guide modification as new themes emerged. Recruitment continued until category saturation was reached.

Illustrative data from focus group and interview analysis are identified by F (focus group) or I (interview) and participant number.

Results

From a cohort of 457, a total of 439 students (96%) completed the *questionnaire* pre-teaching, 443 students (97%) immediately after, and 208 students (45.5%) completed it 26-38 weeks (mean 31 weeks) later – see Figures 2 and 3 for results. Apart from Question 5, all scores improved significantly immediately after teaching - this improvement remained significant, though slightly reduced, 31 weeks later.

Insert figures 2 and 3 here please

Learning about communication

Students reported learning that they had to alter aspects of their communication including body language and seating/positioning, speed of speech and use of time:

“The danger is putting words in his mouth or finishing his sentences for him. Just because it might seem like someone doesn’t know the word that they’re looking for, or can’t say what they’re trying to say, doesn’t necessarily mean that that is actually the case. Having the patience to wait for them...” (I-3)

Issues concerning working with interpreters included positioning to allow patients to be addressed directly, and maintaining eye contact. Students emphasized building rapport so consultations were person (rather than interpreter) centered, and speaking clearly and briefly to enable the interpreter to translate small chunks of information:

“... rather than waffling, making sure it’s clear concise questions, a conversation between three people.” (I-18)

Overall, students recognised that communication in diverse contexts involved using basic skills they already possessed, an 'intelligent adaption' of skills and knowledge to diverse challenges and situations:

"Nothing changes - you follow the exact same core skills all through, except if there's a language problem you just use simpler English. You have to make slight adaptations - there's no dramatic change." (F-3)

Changed awareness

For many students, this teaching was significant:

"I had never spoken to anyone with a disability... starting my third year of medical school I think it was really important to see that aspect... it was good to be exposed to people with disabilities and be aware of communication barriers as well..." (I-6)

"I was scared when I started. I've never met anybody who's been like that. When he started talking, I realised 'this guy, he's just like anybody else'." (F-3)

After individual and group discussion, students felt more empathetic, sensitive, and respectful to people with communication difficulties (due to either disability or cultural diversity) and more aware of working to create rapport in such consultations. Additionally, they emphasized not making assumptions or judgments

and being alert to hidden disabilities:

“Stay open minded when you’re talking to a patient, making sure you’re not having any pre-judgments... It’s made me think more about the person behind the disability rather than just the disability.” (I-18)

Teaching raised awareness of cultural diversity’s influence on health beliefs, with consequent possible consultation difficulties. After working with an interpreter, students felt less likely to be surprised, more likely to plan ahead - perhaps book an interpreter - before going into a consultation, and more aware of potential problems from using family members to interpret. Also, they were subsequently able to critique observed workplace communication.

Barriers identified to communicating with people with disability or from an ethnic background included language, diet, gender, women’s role in society, touch, hand shaking, and underlying beliefs. Barriers also arose within students, who noted sustained change and continuing reflection on broad issues of disability and diversity:

“I was having the conversation I would have had with anybody, and I realised it was a barrier being ‘reduced’ and being a bit shocked it was in me.” (F-4)

Students described the teaching as ‘eye opening’, raising awareness and confidence both in terms of process (how to interact when someone has a communication

disability or is from a different culture) and content (living with disability; not speaking English while a UK resident).

Design of teaching session

All students interviewed were very positive about this teaching. Particularly appreciated were all group members taking turns to talk with the patient or interpreter, and being allowed to make mistakes in a controlled environment. The use of real (rather than simulated) patients, allowing insight into peoples' lives and difficulties, was also helpful:

“Really good to get volunteers – real people who weren’t actors - because you learn a lot by speaking to them. ... I don’t know if it’s what I was supposed to take away but with the refugee, there was an interpreter that spoke English and Arabic, she was a doctor who couldn’t practice in the UK because of qualifications. It’s so unfair that being an interpreter was the best she could do.” (I-11)

Discussion

Our results suggest that one very experiential and well-received teaching session had immediate effects on students' understanding of diversity issues, and their interviewing confidence/skills. These effects were sustained 31-39 weeks after

teaching. Other sustained learning reported was attitudinal, including approaches to dealing with diversity or disability and related issues, increased empathy, fewer judgments/assumptions, and deeper awareness of communication barriers both within individual students and external factors such as underlying cultural beliefs. Interestingly, students' understanding of patients' right to respect did not change significantly, suggesting this fundamental component of clinician patient interaction was already well established before our intervention.

A strength of this study was using quantitative *and* qualitative methods, allowing both exploration of changes for many participants over time and in depth investigation of those changes. Interviews enabled rich accounts, unlikely to emerge from written responses. The high response rate from a single cohort of students gives these findings strength, reduced by the lower rate at 31 weeks.

Our conclusions are limited because results were based on students' self-report of skills, behaviour and attitudes - no actual behaviour was observed. Additionally, between teaching and focus group/interviews, factors other than this session may have influenced participants. Also, interviewees and focus group members were volunteers, hence their responses may not represent the whole cohort, though category saturation was achieved.

This study has further demonstrated that students value teaching on both disability and diversity,^{9,10} which can positively alter both knowledge and attitudes.¹¹⁻¹⁴ Our work suggests that teaching these two important topics together works well (the

skills/attitudes involved overlap considerably) and that the effect of this teaching is sustained for up to 39 weeks. To our knowledge, such long term evidence of change has not previously been published. Similar merging of topics in teaching may be helpful for other areas which could pose communication challenges for clinicians [such as gender, poverty, ageing].

Students reported both acquiring new skills (eg using an interpreter - a GMC recommendation ⁷) and applying existing generic communication skills to new situations. Building on existing skills while increasing complexity is an example of the reiterative helical approach to clinical communication teaching recommended nationally. ⁸ We anticipate such training for flexibility means students will be able to handle new and unfamiliar situations as they arise. The changing awareness and attitudes evident in students' interview accounts suggests this teaching has contributed to developing professionalism in these learners – a key part of medical education. ^{8,20,21}

An *attitude* may be defined as 'a disposition to respond favourably or unfavourably' to a situation. ²² Attitudes are hard to change, and attitude change during medical training can make students less patient-centred. ²³ Our students reported that this single teaching intervention helped them question their preconceptions, reducing internal barriers to communicating with patients. Some felt 'surprised' at changes they witnessed in themselves, particularly about preconceptions. Although there is scant evidence of interventions that influence attitude change over time in medical education, ²⁴ our data suggest attitude change was successfully sustained by

students up to 39 weeks after teaching. Several factors may be involved in this. Firstly, experiential teaching methods [small group work, involving every student in discussion with both interpreter and disabled patient] may challenge internal prejudices through observing other group members. Secondly, linking disability with diversity may widen student perceptions of broad issues for patients and facilitate generalisation from this specific teaching. Thirdly, as students were asked to question a patient with a communication disability and a non-English speaker [via interpreter] about their experiences, students learnt from both the *content* of responses and the *process* (communication skills) required to elicit those responses.

Building on this single educational intervention, further highly experiential and challenging teaching might allow wider exposure to, and understanding of, both disability and cultural diversity. Additionally, learning might become more established by additional group work some months after initial teaching, enabling critical reflection on clinical workplace observations.

Further research might compare different student cohorts, particularly exploring how cultural similarities between students and patients affect both communication and communication education. Observational approaches, and longer follow-up would all enhance our understanding of long-term educational effects of teaching. This teaching intervention was deliberately brief and intense in contrast to other approaches.^{13,14} Inter-school comparisons might enable further understanding of how much change can be attributed to a single teaching session which, in turn, would inform future program design.

Text word count 1983

Ethics

Ethical approval for this study was given by the University of Manchester Committee on the Ethics of research on Human Beings – ref 09294.

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Declaration of interests

The authors declare no relevant interests.

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Figure 1**Description of teaching session: 'Communication, disability and diversity'***Aims*

The aims of the session are to:

- raise awareness of the wide variety of cultural and disability issues which impact on the interactions between patient and doctor;
- raise awareness of personal limits, biases and backgrounds relating to disability and diversity;
- enable students to develop and practice relevant communication skills.

Objectives

By the end of the session students will be able to:

- demonstrate ability to interview a patient with a communication disability ;
- demonstrate basic skills for interviewing patients where there is not a shared language, using interpreters where necessary;
- describe some effects of age, gender, social class, culture and ethnicity on health beliefs and expressed health needs;
- describe a range of disabilities that can lead to difficulties in communication and approaches to managing them;
- understand that all patients have a right to respect however difficult they are to communicate with.

Outline of the session

The session [3 hours including 15 minute break] divides into five main parts:

- a plenary presentation of theoretical input (20 minutes) - introducing communicating with cultural diversity and disability
- 3 tasks (40 minutes each) in small groups (maximum 10 students):
 1. Brainstorm & paper case discussion, both on cultural issues – focus on blocks to communication due to cultural diversity.
 2. Talking to someone who does not speak English through a professional interpreter – questions focused on cultural issues (eg how living in the UK compares to their own country).
 3. Interviewing a patient with a communication disability but no cognitive impairment [eg cerebral palsy, dysphasia following stroke] – questions focused on the experience of living with disability.
- Debriefing in small groups (10 minutes).

In tasks 2 & 3, each student interviews the patient/interpreter for up to three minutes.

Figure 2

Mean questionnaire scores immediately before, immediately after and 31 weeks after the teaching:

Question	Before	Immediately after	31 weeks after
1. I feel confident about interviewing patients with a communication disability.	0.23	1.82	1.52
2. I feel confident about interviewing a patient where there is not a shared language.	-0.56	1.91	1.3
3. I understand the effects of age, gender, social class, culture and ethnicity on health beliefs and expressed health needs.	1.48	2.26 ¹	2.16 ¹
4. I can describe a range of disabilities that can lead to difficulties in communication and approaches to managing them.	0.79	2	1.67
5. I understand that all patients have a right to respect however difficult they are to communicate with.	2.7 ²	2.84 ²	2.68 ²

For questions 1-4, all mean score comparisons (before and immediately after, before and 31 weeks after, and after and 31 weeks after) were significantly different (Mann Whitney U test: $p < 0.05$) apart from ¹.

No significant difference between mean scores for question 5 (²).

Figure 3
Mean score for each question before, immediately after, and 31 weeks after the teaching session

