Sign language communication training: Impact on dental students’ empathy, learning experiences and attitudes towards people with disability

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INTRODUCTION

People with hearing and/or speech impairments (HSI) demonstrated:

• poor oral health status
• high burden of oral diseases
• low dental attendance

(Sandeep 2016)
INTRODUCTION

PATIENTS’ PERCEPTION:

• Difficult to communicate with the dental team
• Dentists demonstrated
  ✓ Lack of empathy
  ✓ Lack of competence

DENTAL STUDENTS’ PERCEPTION:

• Lack of comfort in managing patients with HSI
• Inadequate clinical exposure and training at undergraduate level

(AlShehri 2018) (Ahmad 2015)
Dentists need to learn an effective method to communicate with HSI patients

SIGN LANGUAGE COMMUNICATION TRAINING

↑ DENTAL ATTENDANCE  
↑ TREATMENT PROVISION  
↑ CHAIRSIDE COOPERATION & ATTITUDE

(Jones 2018, Renahan 2017)
INTRODUCTION

Impact of sign language communication training on learners (i.e. dental students) has NOT been thoroughly explored
OBJECTIVES

• To evaluate the impact of training in sign language communication (SLC) on dental students’ empathy and attitudes towards people with disabilities;

• To determine dental students’ perceptions of training in SLC.
28 first year dental students were randomly selected to participate in the SLC course in the first semester of the 2019/2020 academic year.

**PRE-INTERVENTION:**
Participants answered the
1. Toronto Empathy Questionnaire (TEQ);
2. Attitudes towards Disabled Persons (ATDP) questionnaire.

Participants underwent the SLC training program.

Program content:
1. A 14-hour hands-on practical session (delivered over 7 weeks);
2. A 3-hour field trip to a Deaf school to conduct activities in sign language.

**POST-INTERVENTION:**
Students also wrote a reflective journal to note their perceptions of the learning program and experiences during the visit to a Deaf school.

**POST-INTERVENTION:**
Participants answered the
1. Toronto Empathy Questionnaire (TEQ);
2. Attitudes towards Disabled Persons (ATDP) questionnaire.
DATA ANALYSIS

QUANTITATIVE DATA

PAIRED T-TEST (Significance value p<0.05)

SPSS

QUALITATIVE DATA

THEMATIC ANALYSIS

REFLECTIVE JOURNAL

TEQ

ATDP
RESULTS

1) *Improvements of students’ level of empathy:*

Following the program, participants demonstrated a **SIGNIFICANT INCREASE** in:

- total mean empathy score of the TEQ
  
  $(p=0.002, 95\% \text{ CI of mean difference } -8.219, -2.138)$.

<table>
<thead>
<tr>
<th>Pre-test score (SD)</th>
<th>Post-test score (SD)</th>
<th>Mean difference (95% CI)</th>
<th>t statistics (df)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>47.1 (+6.99)</td>
<td>52.3 (+4.88)</td>
<td>-5.18 (-8.22, -2.14)</td>
<td>-3.50 (27)</td>
<td>0.002</td>
</tr>
</tbody>
</table>
RESULTS

1) Improvements of students’ level of empathy:

Following the program, participants demonstrated a **SIGNIFICANT INCREASE** in:

- individual mean scores for 9 (out of 16) items of the TEQ (p<0.05).
<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item description</th>
<th>Pre-test score (SD)</th>
<th>Post-test score (SD)</th>
<th>Mean difference (95% CI)</th>
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<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Other people’s misfortune does disturb me a great deal</td>
<td>2.46 (+0.64)</td>
<td>3.00 (+0.67)</td>
<td>-5.36 (-0.89, -0.18)</td>
<td>-3.07 (27)</td>
<td>0.005</td>
</tr>
<tr>
<td>5</td>
<td>I enjoy making other people feel better</td>
<td>3.50 (+0.51)</td>
<td>3.79 (+0.42)</td>
<td>-0.29 (-0.54, -0.03)</td>
<td>-2.30 (27)</td>
<td>0.030</td>
</tr>
<tr>
<td>6</td>
<td>I have tender concerns for people less fortunate than me</td>
<td>3.11 (+0.74)</td>
<td>3.54 (+0.64)</td>
<td>-0.43 (-0.75, -0.11)</td>
<td>-2.71 (27)</td>
<td>0.011</td>
</tr>
<tr>
<td>9</td>
<td>I find that I am ‘in tune’ with other people’s moods</td>
<td>2.36 (+0.87)</td>
<td>2.86 (+0.76)</td>
<td>-0.50 (-0.92, -0.09)</td>
<td>-2.47 (27)</td>
<td>0.020</td>
</tr>
<tr>
<td>10</td>
<td>I feel sympathy for people who cause their own serious illness</td>
<td>2.64 (+1.03)</td>
<td>3.29 (+0.66)</td>
<td>-0.64 (-1.06, -0.23)</td>
<td>-3.20 (27)</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Individual items of the TEQ with significant increase in mean empathy score (p<0.05)
<table>
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<tr>
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<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>I do not become <strong>irritated</strong> when someone cries</td>
<td>2.43 (+1.00)</td>
<td>3.11 (+0.57)</td>
<td>-0.68 (-1.14, -0.22)</td>
<td>-3.02 (27)</td>
<td>0.005</td>
</tr>
<tr>
<td>12</td>
<td>I am not really <strong>interested</strong> in how other people feel</td>
<td>2.89 (+1.03)</td>
<td>3.43 (+0.50)</td>
<td>-0.54 (-1.00, -0.07)</td>
<td>-2.36 (27)</td>
<td>0.026</td>
</tr>
<tr>
<td>13</td>
<td>I get a strong urge to <strong>help</strong> when I see someone who is upset</td>
<td>3.04 (+0.88)</td>
<td>3.50 (+0.51)</td>
<td>-0.46 (-0.85, -0.08)</td>
<td>-2.46 (27)</td>
<td>0.021</td>
</tr>
<tr>
<td>14</td>
<td><strong>When I see someone being treated unfairly, I do not feel very much pity for them</strong></td>
<td>3.39 (+0.63)</td>
<td>3.68 (+0.48)</td>
<td>-0.286 (-0.54, -0.05)</td>
<td>-2.30 (27)</td>
<td>0.030</td>
</tr>
</tbody>
</table>
RESULTS

2) Improvements of students’ attitudes towards people with disability:

Following the program, participants demonstrated a SIGNIFICANT INCREASE in ATDP mean score
(p=0.048, 95% CI of mean difference -11.020, -0.051).

<table>
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<th>Pre-test score (SD)</th>
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<th>Mean difference (95% CI)</th>
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<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>62.5 (+13.51)</td>
<td>68.0 (+7.13)</td>
<td>-5.54 (-11.02, -0.05)</td>
<td>-2.07 (27)</td>
<td>0.048</td>
</tr>
</tbody>
</table>
RESULTS

3) Students’ perceptions of learning experience

Students opined that the learning program:

Theme 1: Enhanced disability awareness

Subtheme 1: Awareness of Deaf culture and disability issues

“I learned to understand the do’s and don’ts in the life of Deaf people. For example, how to ‘call’ them and where to touch them to alert them. This is very important for us, future dentist to know”.
RESULTS

3) Students’ perceptions of learning experience

Students opined that the learning program:

Theme 1: Enhanced disability awareness

Subtheme 2: Empowerment of disability advocacy

“I would use this experience to reach out to more special needs community to provide my services, to help those who feel disadvantaged to meet healthcare providers due to communication barriers”.
RESULTS

3) Students’ perceptions of learning experience

Students opined that the learning program:

Theme 2: Encouraged acquisition of skills

Subtheme 1: Communication skill

“Previously, I do not have the experience with people with disability. After the program, I am glad that I get to experience communicating and interacting with them. I feel more confident now if I were to meet another deaf kids again”.
RESULTS

3) Students’ perceptions of learning experience

Students opined that the learning program:

Theme 2: Encouraged acquisition of skills

Subtheme 2: Thinking and memorising abilities

“It was not easy to remember the signs for each words, which demands good memories and consistent practice. It gives my brain a good workout”.
RESULTS

3) Students’ perceptions of learning experience

Students opined that the learning program:

Theme 2: Encouraged acquisition of skills

*Subtheme 3: Teamwork*

“Everyone was committed and contributed well when planning and preparing for the visit. It was a good experience”.
3) Students’ perceptions of learning experience

Students opined that the learning program:

Theme 3: Improved their personal values or beliefs

“This experience makes me feel very humble and grateful for the things I have”.

“I believe that being a doctor or a dentist requires you to be kind and empathetic towards other people, especially those with special needs”.
DISCUSSION

SIGN LANGUAGE COMMUNICATION TRAINING

Dental students demonstrated declining level of empathy as they progressed through their studies

- Narang 2019
DISCUSSION

SIGN LANGUAGE COMMUNICATION TRAINING

IMPROVED PERSONAL VALUES & BELIEFS;
IMPROVED ATTITUDES TOWARDS PEOPLE WITH DISABILITY;
ENHANCED DISABILITY AWARENESS

Values that define professionalism in dental practice:
Fairness, integrity, responsibility, respect, service-mindedness, competence.

- American Dental Education Association 2009
DISCUSSION

SIGN LANGUAGE COMMUNICATION TRAINING

ESSENTIAL & VALUE-ADDED SKILLS

- SURVIVAL
- SUCCESS
- EMPLOYABILITY
  - Hanks 2018

DEVELOPMENT:
- Personal
- Educational
- Professional
FUTURE RECOMMENDATIONS

**01**
Introduce SLC training as part of the undergraduate or postgraduate training program in Special Care Dentistry.

**02**
Collaborate with organisations offering SLC training program
- Develop program;
- Encourage social integration between the dental profession and the Deaf community.
STUDY LIMITATION:

Cross-sectional study
(Only measure immediate impact)

FUTURE RESEARCH:

Longitudinal study
(Measure long-term impact)
CONCLUSION

Sign Language Communication Training

Empathy

Disability awareness

Skills - Communication; Thinking & memorising; Teamwork

Personal values & beliefs

Positive learning experience

Attitudes towards people with disability
REFERENCES

• ADEA Task Force on Professionalism in Dental Education. ADEA Statement on Professionalism in Dental Education. Washington DC: American Dental Education Association; 2009.


Ethics approval was granted by the Research Ethics Committee at the Universiti Teknologi MARA, Malaysia (Reference Number REC/08/2020 (MR/192); 600-TNCPI(5/1/6)).