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Health and Medicine Division of the National Academy of Sciences recommend health literacy skills training in 2004.

In a 2010 survey of US allopathic medical schools:
- Response rate 47%
- 72% had required health literacy curricula
  - 84% used didactics/lectures
  - 57% used standardized patients
  - 46% included workshops/role-play
  - 57% utilized an OSCE for an evaluative tool

Institute of Medicine, 2004
Coleman, 2012
• Health literacy curricula in medical schools positively impact knowledge, confidence and use of health literacy skills
• Limited data on long-term retention of skills
• Limited studies in the literature comparing type of curricula on these skills
We hypothesized that despite its popularity as a teaching method, didactic instruction is an inferior method for teaching health literacy and clear communication skills.
Objectives of Project

• Primary Objective:
  – Determine if a workshop in health literacy and clear communication skills will increase rates of use of clear communication skills in an OSCE scenario

• Secondary Objectives:
  – Determine if a workshop in health literacy and clear communication skills will lead to increased knowledge, comfort and use of these skills
Methods

• Study Design
  – Prospective comparative cohort study

• Inclusion Criteria
  – Third Year Pediatric Clerkship students at Albert Einstein College of Medicine, 2015-2016

• Data Analysis
  – Bivariate analysis: t-test, chi-square
  – Regression analysis: Linear, Binomial logistic
Methods: Study Design

TIMING

Clerkship Orientation

Early Clerkship

Mid-Clerkship

End of 3rd Year

Didactic for All Students
N=188

Workshop
N = 98

OSCE Task in Patient Counseling

End of 3rd Year Survey

No Workshop
N = 90

Mid-Clerkship Survey

Intervention

Control
Methods: Study Design

TIMING

Clerkship Orientation

- Didactic for All Students N=188
- 30 minute didactic for Pediatric Clerkship students at orientation

Control
- No Workshop N = 90

- Mid-Clerkship Survey
- End of 3rd Year Survey

Intervention
- Workshop N = 98
- OSCE Task in Patient Counseling

- Mid-Clerkship Survey
- End of 3rd Year Survey
Methods: Study Design

**TIMING**

- Students assigned study arm based on clinical sites
- Early Clerkship
- Mid-Clerkship
- End of 3rd Year

**Didactic for All Students N=188**

- Intervention
  - Workshop N = 98
- Control
  - No Workshop N = 90

**OSCE Task in Patient Counseling**

- End of 3rd Year Survey

**Mid-Clerkship Survey**
Methods: Study Design

**TIMING**

- Clerkship Orientation
- Early Clerkship
- Mid-Clerkship
- End of 3rd Year

**Intervention**

- Workshop N = 98

**Didactic for All Students**

- N = 188

**No Workshop**

- N = 90

**OSCE Task in Patient Counseling**

**End of 3rd Year Survey**

**Ninety minute workshop**

- Group feedback of a taped mock clinical encounter
- Role-plays with group feedback of skills
- Pocket card of all 4 primary clear communication skills
Methods: Study Design

**CTEP for Clear Communication**

- **C** = Clear and simple language. No medical jargon.
- **T** = Teach back technique. Ask patient to repeat your instructions back to you in their own words.
- **E** = Effectively encourage patient’s questions. Act like you want to hear their questions! Say “What questions do you have?” NOT “Do you have any questions?”
- **P** = Pictures. Use pictures or graphics whenever possible when giving patient instructions.
Methods: Study Design

**TIMING**
- Clerkship Orientation
- Early Clerkship
- Mid-Clerkship
- End of 3rd Year

**Didactic for All Students**
N = 188

**Intervention**
- Workshop
  - N = 98

**Control**
- No Workshop
  - N = 90

**OSCE Task in Patient Counseling**
- Evaluation Tools

**End of 3rd Year Survey**
- Mid-Clerkship Survey
Methods: Study Design

**TIMING**

- Clerkship Orientation
- Early Clerkship
- Mid-Clerkship
- End of 3rd Year

**OSCE Task in Patient Counseling**

Counseling a standardized patient about fever and anti-pyretic use

- Didactic for All Students: N=188
- No Workshop: N = 90
- Workshop: N = 98

- End of 3rd Year Survey
- Mid-Clerkship Survey
Methods: Study Design

**TIMING**

<table>
<thead>
<tr>
<th>OSCE Task in Patient Counseling</th>
<th>Standardized Patient Checklist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fever Counseling Items</strong></td>
<td>Adapted from a checklist used in the literature.</td>
</tr>
<tr>
<td>1. Did the student explain things in plain, non-medical language as they were counseling about fever? Check &quot;No&quot; if any unexplained medical jargon or vague terms were used and not defined.</td>
<td></td>
</tr>
<tr>
<td>2. Did the student use graphics or drawings to help teach?</td>
<td></td>
</tr>
<tr>
<td>3. Did the student check to make sure that you understood their instructions?</td>
<td></td>
</tr>
<tr>
<td>If YES, did they use:</td>
<td></td>
</tr>
<tr>
<td>[ ] Teach-back method (Asked you to repeat their instructions back to them in your own words.)</td>
<td></td>
</tr>
<tr>
<td>[ ] Open ended (e.g., &quot;Tell me what you don’t understand about these instructions.&quot;)</td>
<td></td>
</tr>
<tr>
<td>[ ] Closed ended (e.g., &quot;Do you understand?” “Does that make sense?”)</td>
<td></td>
</tr>
<tr>
<td>4. Did the student ask you if you had any questions?</td>
<td></td>
</tr>
<tr>
<td>If YES, did they use:</td>
<td></td>
</tr>
<tr>
<td>[ ] Open ended (e.g., &quot;What questions do you have?&quot;)</td>
<td></td>
</tr>
<tr>
<td>[ ] Closed ended (e.g., &quot;Do you have any questions? “Does that make sense?”)</td>
<td></td>
</tr>
</tbody>
</table>

Methods: Study Design

**OSCE Task in Patient Counseling**

**TIMING**

- **Clerkship Orientation**
- **Early Clerkship**
- **Mid-Clerkship**
- **End of 3rd Year Survey**

**Students scored and classified as:**
- **Score 0-2 = “Low-performers”**
- **Score 3-4 = “High-performers”**

**Clear Language**

**Use of Pictures**

**Teach-back**

**Effectively soliciting patient’s questions**

*Ref: Adapted from: Green JA et al. Addressing health literacy through clear health communication: A training program for internal medicine residents. Patient Education and Counseling 95 (2014) 76-82.*
Methods: Study Design

TIMING
- Clerkship Orientation
- Mid-Clerkship
- End of 3rd Year

Surveys evaluated knowledge, self-reported use, and comfort

Didactic for All Students
N=188

Intervention
OSCE Task in Patient Counseling

Control
No Workshop
N = 90

Mid-Clerkship Survey

End of 3rd Year Survey
Results
OSCE Standardized Patient Checklist: Results
### Bivariate Comparison of Communication Skills Between Groups

<table>
<thead>
<tr>
<th></th>
<th>Didactic</th>
<th>Didactic + Workshop</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High CTEP Performance (3-4)</td>
<td>8.9%</td>
<td>37.4%</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Low CTEP Performance (0-2)</td>
<td>91.1%</td>
<td>62.6%</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td><strong>Clear Language Use</strong></td>
<td>84.4%</td>
<td>88.1%</td>
<td>0.38</td>
</tr>
<tr>
<td><strong>Teach-back Use</strong></td>
<td>26.7%</td>
<td>52.5%</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td><strong>Asked for Questions</strong></td>
<td>92.2%</td>
<td>77.8%</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td><strong>Open-ended elicitation for questions</strong></td>
<td>14.5%</td>
<td>25.0%</td>
<td>0.13</td>
</tr>
<tr>
<td><strong>Use of Pictures</strong></td>
<td>10%</td>
<td>45.5%</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
### Adjusted Logistic Regression of Communication Skills Between Groups

<table>
<thead>
<tr>
<th></th>
<th>Odds Ratio</th>
<th>Lower</th>
<th>Upper</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTEP Low vs High Performer</td>
<td>6.4</td>
<td>2.8</td>
<td>14.8</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Teach-back Use</td>
<td>3.2</td>
<td>1.7</td>
<td>6.1</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Asked for Questions</td>
<td>0.4</td>
<td>0.1</td>
<td>0.7</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Open Ended Questions</td>
<td>2.1</td>
<td>0.9</td>
<td>4.7</td>
<td>0.08</td>
</tr>
<tr>
<td>Use of Pictures</td>
<td>8.2</td>
<td>3.6</td>
<td>18.5</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
Mid-Clerkship and End of Year Survey: Results
## Bivariate Comparison of Knowledge, Comfort and Use

<table>
<thead>
<tr>
<th>N=80</th>
<th>Didactic</th>
<th>Workshop + Didactic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Skills Recalled</td>
<td>0.4</td>
<td>2.4</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Difference in retrospective pre/post comfort using (1-5)</td>
<td>0.7</td>
<td>1.4</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Proportion who used CTEP in the clerkship</td>
<td>63.9%</td>
<td>95.5%</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
### Adjusted Logistic Regression of Use During the Clerkship

<table>
<thead>
<tr>
<th></th>
<th>OR</th>
<th>Lower</th>
<th>Upper</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use during the clerkship</td>
<td>13.1</td>
<td>2.0</td>
<td>87.3</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
# End of Year Survey

## Bivariate Comparison of Reported CTEP Use in Third Year

<table>
<thead>
<tr>
<th></th>
<th>N=85</th>
<th>Didactic</th>
<th>Workshop + Didactic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of CTEP &gt;5 times in entire year</td>
<td></td>
<td>33.3%</td>
<td>57.5%</td>
<td>0.04</td>
</tr>
<tr>
<td>Use of CTEP &gt;10 times in entire year</td>
<td></td>
<td>18.2%</td>
<td>29.3%</td>
<td>0.23</td>
</tr>
</tbody>
</table>
## Logistic Regression of Reported CTEP Use in Third Year

<table>
<thead>
<tr>
<th>Use &gt;5 times during entire year</th>
<th>Odds ratio</th>
<th>Lower</th>
<th>Upper</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3</td>
<td>0.9</td>
<td>5.7</td>
<td>0.08</td>
<td></td>
</tr>
</tbody>
</table>
Results: Summary

• Workshop students were significantly more likely to use teach-back and pictures in the OSCE.

• Workshop students were less likely to ask the SP for questions, although if they did ask for questions they had a statistically insignificant trend toward greater use of open-ended questions.
Conclusions

- Workshop students:
  - Improved in measures of **knowledge**, **comfort** and **use** compared to didactic alone students
  - Had some evidence of higher rates of self-reported **use** of the CTEP skills throughout the entire 3rd year, though not at levels that indicate consistent integration into practice
Limitations

- Not randomized
- Single institution, generalizability
- Possible selection bias in end of year survey
- No way to know for certain if improvements were due to teaching method or greater length of time exposed to material
Conclusions

• A workshop supplementing didactic instruction in health literacy skills can improve student performance on an OSCE task in clear communication

• Didactic instruction alone is an insufficient method for teaching health literacy and clear communication skills
Questions?