Social Determinants of Health Virtual Reality Videos for DPT Students

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We have no financial relationships.
Ohio University Pilot Study (N=69)

Received funding from Medicaid/Medicare to produce videos

Pilot: Assessed 1) Cultural self-efficacy; 2) Diabetes Attitudes; and 3) Presence

- All 5 diabetes attitude subscales improved significantly
  1) Need for special training, 2) Seriousness of type 2 diabetes, 3) Value of tight glucose control, 4) Psychosocial impact of diabetes, and 5) Attitude toward patient autonomy

- High scores for presence in cine-VR, indicating favorable perceptions of the technology and immersion in the 360-degree virtual environment.

(Beverly, 2021).
## Video Modules

<table>
<thead>
<tr>
<th>Lula Mae</th>
<th>Dr. Brown</th>
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<tbody>
<tr>
<td>• 72-year-old grandma</td>
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<tr>
<td>• Type 2 diabetes for 22 years</td>
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<td>• Lived her whole life in rural Ohio</td>
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<tr>
<td>• Lula Mae’s doctor</td>
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<tr>
<td>• Experiencing signs of burnout</td>
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### Social Determinants of Health affecting Lula Mae

- Transportation barriers
- Less access to healthcare
- Limited or no insurance
- Financial barriers

### Social Determinants of Health affecting Lula Mae

- Housing issues
- Food insecurity
- Less social support

12 modules about 3-5 minutes in length

360 format
Meeting Lula Mae

Experience it for yourself!

Watch video: https://mesp.ohio.edu/training1.html
DPT Students

- Second semester of 8-semester program
- Clinical experience disrupted
  - Opportunity for patient interaction
  - Same exposure for all students
  - Opportunity for purposeful reflection on application to future clinical practice

63 first-year DPT students

American Council of Academic Physical Therapy (2020)
DPT Students
We needed at least 34 students to participate

63 Baseline
60 Post-assessment
44 6-week
<table>
<thead>
<tr>
<th>Demographics</th>
<th>BL to Post</th>
<th>Post to 6-weeks</th>
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<tbody>
<tr>
<td>Women</td>
<td>60%</td>
<td>56%</td>
</tr>
<tr>
<td>White</td>
<td>78%</td>
<td>82%</td>
</tr>
<tr>
<td>Omaha Campus</td>
<td>82%</td>
<td>80%</td>
</tr>
<tr>
<td>Family/friend with diabetes</td>
<td>53%</td>
<td>56%</td>
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</table>
Diabetes Attitudes Sub Scales

- *Special training*
- Seriousness T2D
- Tight glucose control
- Psychosocial impact
- Patient autonomy

Likert Scale of 1-5
*Ceiling effect
5-point scale 1=strongly disagree to 5=strongly agree
Jefferson Empathy Scale Baseline and Post (n=60)

Baseline: 4.09
Post: 4.38

p<0.001

20 questions with 1=strongly disagree to 7=strongly agree
Presence Measure n=60

<table>
<thead>
<tr>
<th>Sub Scale</th>
<th>Mean</th>
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<tbody>
<tr>
<td>Involvement (6Q)</td>
<td>5.41</td>
</tr>
<tr>
<td>Sensory Fidelity (4Q)</td>
<td>5.17</td>
</tr>
<tr>
<td>Adaptation/Immersion (5Q)</td>
<td>5.08</td>
</tr>
<tr>
<td>Interface Quality (2Q)</td>
<td>5.18</td>
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17 questions
Response on a 7-point scale
One more time!?  

- 6-week assessment  
- 2 main scales  
  - Diabetes Attitude Scale  
  - Jefferson Empathy Scale
Differences in DAS-3 at Baseline, Post, and 6-weeks
JES at Baseline, Post, and 6-weeks

- Baseline: 4.10, p<0.001
- Post: 4.37, p=0.16
- 6-week: 4.42
Classroom Discussion

- Provider Burnout
- Patient-Provider Relationship
- Student emotional response
- Student connection through stories
- Patient Barriers: Social Determinants of Health
- Patient Barriers: Lack of Family Support
Provider Burnout

“he didn't even give her a chance to speak like just kind of took out his burn out”

“I don't think he rarely even let her finish her sentences”

“I felt like at that point he was just being condescending”
Patient-Provider Relationship

“Maybe she doesn't want to go to the doctor because of how she was treated last time. She doesn't want to be reprimanded again and treated like a child, you know.”

“I could just feel my blood pressure rising. I could just I just felt like holy buckets! You know, it's like why on Earth would this woman go to her doctor’s appointment?”
Emotional Response

“I was like everyone kind of really frustrated with all of her kids at first.”

“I was very emotionally invested in this and I think I was in tears in the first 5 minutes.”

“I mean it would it just I was pretty angry at that point.”
Student stories

Students told stories about family members and their poor relationship with health care providers.

Students related to the social determinants of health through their own stories.

Students discussed their own feelings of burnout by telling their stories.

One student told a story about learning to eat healthy food as a teenager (orange).
Patient Barriers: SHD

“the distance inhibited her ability to access proper medical care.”

“so just being in that area usually the economic problem and then also like education, like the literacy could be a little bit lower …”

“We have stroke survivors out here in rural Nebraska that travel anywhere between 100 and 300 miles. You know, and you think about that.”

“if you don't feel safe in your neighborhood, are you going to go out for a walk or are you going to go out for a run?”

“thinking about that and someone that does have food insecurity, they're trying to get foods that can carry them through a week or two weeks or a month or something.”
Patient Barriers: Lack of Family Support

“Everybody said the family will help and obviously the family was not helping as much as they thought they were.”

“We can't just assume that family members will take care of our patients for us once they leave the clinic.”

“I felt like her daughters especially were like taking advantage of her, asking her for money all the time. Assuming that she's going to watch all of the kids and. Not ask for help and she's able to do all that and I was shocked.”

“I know that that was a really surprising aspect to me because, you know, for us we helped our parents.”
Summary

- Attitudes toward diabetes improved from BL to post; two domains decreased at 6-weeks
- Empathy increased and remained high
- Provided rich classroom discussion
- Advantages:
  - Experience is flexible
  - Students can engage in multiple aspects of a patient’s life
  - Shared experience among students
References
