

IMPROVISATION IN DOCTORS OF PHYSICAL THERAPY STUDENT EDUCATION

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Background

Medical improv applies the techniques utilized in improvisation theatre to facilitate development of characteristics in medical professionals including effective communication, adaptability, and resilience (Watson & Fu, 2016; 2021). Each technique is paired with a discussion that allows the participants to understand how the techniques could be used to become a stronger medical professional. Because medical professionals are often placed in uncomfortable or unexpected situations, medical improv is designed to improve the participant's ability to "think on their feet."

There is emerging evidence to show the benefits of implementing medical improv into health professional curriculums. While there is research describing its' use and benefits with medical, nursing, dental, pharmacy and occupational therapy students, it has not been studied in physical therapy (PT) education. Current Northwestern PT faculty and staff who have experience in improv comedy and acting previously introduced improv sessions with PT students in winter 2020, however, this was postponed due to Covid restrictions.

Research Objectives

Our objective was to investigate the effectiveness of a 4-session improvisation program with Doctor of Physical Therapy (DPT) students at Northwestern University Feinberg School of Medicine Department of Physical Therapy and Human Movement Sciences (PTHMS) on improving student:

1. resilience
2. coping self-efficacy
3. self-esteem
4. communication skills

Methods

- A REDCap online survey was sent to participants and control group before* and after the 4-week improv program. The survey was composed of:
 - Three outcome measures (Table 1)
 - PTHMS Improv Program evaluation (Table 2)
 - Participant demographics
- PTHMS Improv Program evaluation was collected after the final session only.
 - 5-point Likert scale with 2 open-ended questions
- Nonparametric tests were used to calculate outcome measure differences from pre to post, both between and within groups.



Training Manual: 4 improv sessions were designed and delivered by study members, each focusing on a different objective.

Results

Improv Program Participants

- Attendance: 18 signed up, 15 attended 1st session -> 12 attended 2nd and 3rd sessions -> 10 attended 4th session
- 9 individuals completed all 4 sessions and all surveys
- 5/9 identified as female; 3/9 were 20-24 yrs. old, 4/9 25-29 yrs., 2/9 >30 yrs.

Improv Program Evaluation

- All questions scored ≥4/5 on the Likert scale

Outcome measure results for Improv Program participants versus control group

- No significant difference between and within groups for pre- and post-intervention outcome measures

Table 1. Outcome Measure Results for Participants and Control Pre and Post (higher score = more positive result)

Outcome Measure (scale)	Improv Participants		Control Group	
	Pre-Survey Median and IQR	Post-Survey Median and IQR	Pre-Survey Median and IQR	Post-Survey Median and IQR
Connor-Davidson Resilience Scale 25 (0-100)	73 (65, 76.5)	71 (60, 81)	70 (65, 73.5)	73 (66, 76.5)
Rosenberg Self-Esteem Scale (0-40)	21 (12.5, 22.5)	20 (14, 23.5)	22 (13.5, 24)	17 (14, 25)
Coping Self-Efficacy Scale (0-260)	152 (144.5, 188.5)	163 (144, 192.5)	171 (146.5, 192)	183 (152-192.5)



Post-improv Interview Video

Table 2. Results from PTHMS Improv Program evaluation

The Improv Program helped me in my role as a student	4.2/5
This program made me feel more confident	4.1/5
This program improved my ability as a communicator	4.0/5
This program helped me to think on my feet	4.2/5
This program increased my use of social support	4.3/5
This program made me feel more resilient	4.2/5
I would recommend the Improv Program to a classmate	4.7/5



Post-improv Interview Video

Discussion

- No difference in outcome measures between and within groups pre-intervention vs. post-intervention.
- All program evaluation items assessing participant satisfaction scored ≥ 4/5 and open-ended questions assessing participant feedback were positive.
- Limitations:
 - No true baseline prior to intervention start due to delay in IRB approval.* Baseline measures were taken after the first session.
 - Limited total intervention time, only 4 sessions.
 - Schedule changes due to COVID led to reduced attendance.
 - Outcome measures responses may have been affected by other factors occurring at that time such as practical and written exams.

Conclusion

Outcome measures did not yield significant differences between and within groups, yet the program evaluations reported high satisfaction, enjoyment, and suggest meaningful growth as well as providing social support during a rigorous DPT program.

- Possible next steps for future studies include:
 - increasing total intervention time
 - embedding sessions into existing course work
 - reducing evaluation burden
 - increasing participation size
 - spread program to other DPT programs and across Feinberg

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