

Decision simulation technology to assess practical application of massage therapists' (MTs) use of a MT-client helping conversation for skin cancer risk reduction

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Background

- Skin cancer, the most common cancer in the U.S., is a public health problem in Arizona.¹⁻² Early skin cancer detection decreases potential morbidity, mortality, and cost.¹⁻²
- Massage therapists (MTs) are an innovative resource for reducing skin cancer risk. MTs have unique access to clients' skin; MTs practicing in Arizona average about 620 client encounters per year—affording the potential to converse with thousands of Arizonans about skin cancer risk reduction strategies.³
- MTs currently have inconsistent skin cancer education that lacks rigorous evaluation for its impact on MTs and their clients.³
- We developed and implemented an e-training instructing MTs how to have helping conversations with their clients about skin cancer risk reduction.
- DecisionSim™ branched narrative simulations are widely used in medical and clinical training applications, with marked efficacy and satisfaction.⁴ Decision simulation cases that are interactive and adaptive provide the opportunity to mimic a client encounter and integrate and properly apply knowledge and skills learned in e-training.

Reported here is the development and implementation of the branched-narrative decision simulation component of a skin cancer risk reduction e-training intervention for massage therapists (MTs).

Methods

- Developed five decision simulation cases based on the e-training competencies, mimicking a MT-client encounter and demonstrating the MTs' application of training knowledge.
- Case development: 1) drafted a variety of scenarios with local MT subject matter experts; 2) visually mapped each case to create each potential conversation pathway (see Figure 1); and 3) built each case within the DecisionSim™ platform (see Figure 2).
- Each simulation branching node had paths of "optimal, feedback, or suboptimal." The choices in each node corresponded to one of 4 helping conversation competencies: Awareness, Understanding, Helping and Relating.
- Scored each path selected by the MT and tracked performance and choice selection using counters (see Figure 3).
- Downloaded reports of specific learner sessions to view the MT's path through the case, scores, and the amount of real time spent from the first node to the case endpoint.
- 36 MTs rated their agreement regarding enjoyment of and perceptions of the usefulness of the simulations on a 5-point scale (1 = Not at all useful ; 5 = Very useful).



Figure 3



Figure 2

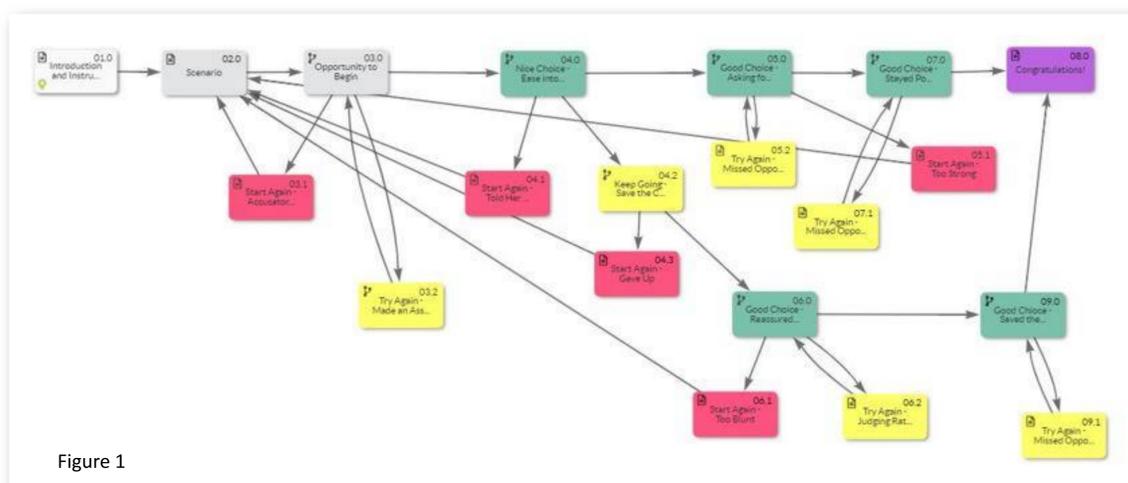


Figure 1

Results

Table 1. Participant simulation performance by case (n=81)

Case Scenario	Case 1	Case 2	Case 3	Case 4	Case 5
Time Spent in Case (minutes)					
Mean	4.12	2.40	2.12	1.93	2.90
Min	1.08	0.57	0.73	0.50	0.83
Max	30.70	11.32	10.10	21.75	18.20
Number of participants who selected:	N (%)	N (%)	N (%)	N (%)	N (%)
Feedback	18 (22.2)	34 (42)	28 (34.6)	21 (25.92)	5 (6.17)
Suboptimal	5 (6.17)	3 (3.70)	0 (0.0)	2 (2.47)	19 (23.46)
Feedback + Suboptimal	4 (4.93)	8 (9.90)	3 (3.70)	2 (2.47)	23 (28.40)
Optimal	55 (68.9)	36 (44.4)	50 (61.73)	56 (69.13)	31 (38.27)

- 81 MTs completed the simulation in an average of 2.7 minutes.
- The most common feedback and suboptimal responses corresponded to competencies in the Awareness and Helping steps of the helping conversation (starting the conversation and sharing information, respectively).
- Common mistakes: MTs' expression of personal concern when communicating with the simulated client; sharing personal experiences in a potentially negative way.
- The case with the most suboptimal responses (23.4%) pertained to finding a suspicious lesion on a client. The case with the most optimal responses (69.13%) pertained to sun protection.
- The majority of MTs (86%) agreed/strongly agreed that they enjoyed the simulations (mean = 4.31); 92% agreed that the simulations were helpful to include in the training (mean = 4.36).

Conclusion

Decision simulation technology integrated into e-training modules was useful for assessing practical application of MT knowledge and skills for a MT-client helping conversation for skin cancer risk reduction.

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