



PROMOTING SKIN SELF-EXAMINATION FOR EARLY DETECTION OF MELANOMA WITH A TABLET-BASED INTERVENTION

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IRB # STU STU00017005

Melanoma and Skin Self-Examination Training

□ Melanoma:

- Serious skin cancer that can be deadly when it grows deeper, getting into blood vessels and spreading to vital organs.
- If found early, can be successfully treated. Since melanoma can be seen, people can **learn** to find it early.



□ Previous Research:

- Patients with melanoma detected by lay people during deliberate skin self-examinations (SSEs) are more likely to survive than those with melanoma discovered incidentally.

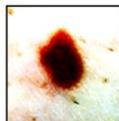
The PC Tablet-Based Program (PCT)

- Created to develop a scalable, effective intervention to enhance performance and accuracy of SSE among those at-risk to develop melanoma.
 - A pilot fourth arm added to existing project, A comparison of interventions to teach melanoma patients skin self-examination, NIH R01CA154908 (Robinson, PI)
 - 3 educational interventions, 1 control with customary care
 - Uses the same content as is delivered in the in-person and workbook training arms
 - Contains a narrated video presentation with animated graphic design and video

Interactive Scoring Exercises

Border

Score the following moles as a 1, 2, or 3:



1

02:05

Video Component



Methods

- Patient-partner dyads were randomized to one of the three interventions:
 - In-person training (165 pairs)
 - Workbook training (165 pairs)
 - PCT training (70 pairs)
 - Versus customary care control (100 pairs)
- Immediately after an intervention, participants completed a 22 item, 5-point response survey of their knowledge and attitudes about performing SSE.
 - Those receiving the PCT intervention also responded to open ended questions regarding their experience with the tablet and their familiarity with and use of similar technology.

Results: Demographics

Demographic Means (SD)				
	Control	Workbook	In-Person	Tablet
Age	55.91(15.26)	55.19 (14.12)	56.67 (12.77)	54.70 (14.84)
Education	5.09 (.986)	5.15 (.823)	5.07 (.960)	5.28 (.863)
Income	5.24 (1.06)	5.40(.926)	5.36(.998)	5.21(.988)

- No significant mean differences between groups in age, education or income.
- In all groups the majority of individuals had a college degree or higher and had an income of \$51,000 or higher.

Results: Perceptions of the PCT

- Tablet Usability Survey: First 30 tablet pairs
 - Easy, personal, partner exam video was great and helpful
 - Technical issues at the start of the tablet, so pairs noticed the glitches
- Personal Tablet Use:
 - 54.7% of study participants own a tablet of their own
 - 71.7% have never used their tablet for reading educational materials
 - Even without experience with an educational app on a tablet, participants learned nearly equally as well from the PCT as the other forms of training.

Results: Perceptions of Interventions

- Knowledge of SSE, using the scoring system and body map diaries similar with all interventions.
- Difference between groups were all < .75 units on a 5-point scale and often smaller than the average standard deviation on the scale, thus, not clinically significant.

Question	Workbook	Tablet	In-Person
Evolution was explained clearly with useful examples	1.80 (.40)	1.81 (.40)	1.96 (.23)
Scoring was explained clearly with useful examples	1.60 (.40)	1.68 (.55)	1.94 (.26)
I feel that I am now better able to monitor my moles over time	1.53 (.58)	1.60 (.49)	1.78 (.45)
I feel that I am now better able to score moles accurately	1.41 (.66)	1.47 (.58)	1.70 (.51)
Overall, the information was easy to understand	1.62 (.57)	1.72 (.50)	1.79 (.46)

All items were coded between -2 (strongly disagree) and +2 (strongly agree)

Results: Photo Skills Quiz

Photo Skills Performance		
Group	Mean	SD
In-Person	3.47	.69
Tablet	3.25	.68
Workbook	3.02	.82

- In-Person group scored significantly higher than the Workbook and Tablet groups.
- **Tablet group scored significantly higher than the Workbook group.**

Conclusions

- Videos of the physician and research coordinator make the experience seem personal to the melanoma patient and their skin check partner.
- The tablet program was effective in teaching patients and their skin check partners how to conduct SSE at home, even after no prior experience with tablet education
- A PCT intervention can deliver skills training comparable to other training methods during the customary outpatient office visit with the physician.
- The highest quiz scores were from in-person pairs. Encouragingly, the significantly better performance of the tablet pairs than workbook pairs suggests a technologically interactive education can be more effective than reading.

Implications and Future Directions

- Behavioral intervention technologies may decrease healthcare costs
 - Reduce the burden on HCP's time to train patients
 - Patients and partners can find suspicious moles more accurately
 - Fewer unnecessary dermatology appointments for benign pigmented skin lesions
 - More early, successful treatment of melanoma
- The pilot PCT program will be redesigned to be more interactive, which is expected to improve upon the pairs' self-efficacy such that the PCT intervention will be comparable with the in-person education
- Mass-dissemination of this education on the Internet

Acknowledgements

- NMFF Dermatology Group
- Dr. Wayne and Dr. Bilmoria, NMFF Surgical Oncology
- The melanoma patients and their partners, who gave of their time and effort to make this research possible.