

Integrating Tobacco Cessation into a Home Telemonitoring System for Veterans with PTSD

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Polling Question

What is your primary role in the VA?

- Primary Care/Specialty Provider
- Mental Health Provider
- Nurse
- Telehealth Care Manager
- Researcher
- Administrator

Objectives

Participants will be able to:

- Identify reasons for integrating tobacco cessation care into a home telemonitoring system using a motivational interviewing approach.
- Discuss the process of development, implementation and evaluation of an integrated care management tobacco cessation intervention for Veterans with Posttraumatic Stress Disorder (PTSD).
- Describe the strengths and limitations of using a home telemonitoring system in research.

Outline of Presentation

- Background
 - Need for intervention
 - Telehealth Care Management in the VA
- Integration of Tobacco Cessation into PTSD Telehealth Care Management
- Research Study
 - Recruitment/Enrollment
 - Baseline Measures
 - Outcome Data
 - Qualitative Data
 - Conclusion
- Lessons Learned/Implication
- Next Steps

Need for an Intervention

- VA estimates that more than 50% of all active duty personnel smoke¹
- Estimated smoking rate for Veterans with PTSD ranges between 53-66%²
- While 50% of all Americans who once smoked have stopped smoking, only 23% of smokers with PTSD have quit^{3,4}

Need for an Intervention

- Veterans with PTSD have unique challenges to quitting:
 - Flashbacks/intrusive recollections
 - Avoidance and numbing
 - Hyperarousal/anger
- Need an intervention that:
 - Does not arouse anger
 - Lets patient choose amount of contact
 - Uses information about PTSD and smoking cessation

Telehealth and Care Management

Chronic Conditions

- Can help patients feel connected and less isolated
- Telemonitoring programs reduced the rates of hospitalization by 21% and all-cause mortality by 20% while reducing costs and improving health related quality of life ⁵
- Telemonitoring was shown to decrease emergency room visits, increase medication compliance, and improve communication between patient and provider^{6,7,8}

Care Coordination

- Care Coordination Home Telehealth Program implemented across the VA in 2003-2004
- Home telemonitoring with the Health Buddy[®] enhances communication with coordinators concerning chronic condition and self-management techniques
- Disease Management/Managing chronic diseases
- Self Management/In-home Support

Care Management using the Health Buddy

Telehealth and Care Management



Polling Question

What is your experience with using home a telemonitoring system?

- I have heard of the Health Buddy or another system, but have no experience using it
- I have experience using the Health Buddy or another system
- I have no experience or knowledge of any home telemonitoring system

Telehealth and Care Management

- The PTSD Health Buddy Program provides a daily curriculum which includes medication reminders to promote adherence and educational material about PTSD, medication effects/side effects and lifestyle activation
- Patient responses are color-coded and flagged according to pre-determined criteria to facilitate rapid interpretation by care manager
- Care Manager communicates with Primary Care and Mental Health Providers via CPRS



Care Management & Tobacco Cessation using the Health Buddy

Tobacco Cessation curricula integrated into PTSD content plus Phone Counseling



Tobacco Cessation Written Curricula and Phone Counseling

Tobacco Cessation

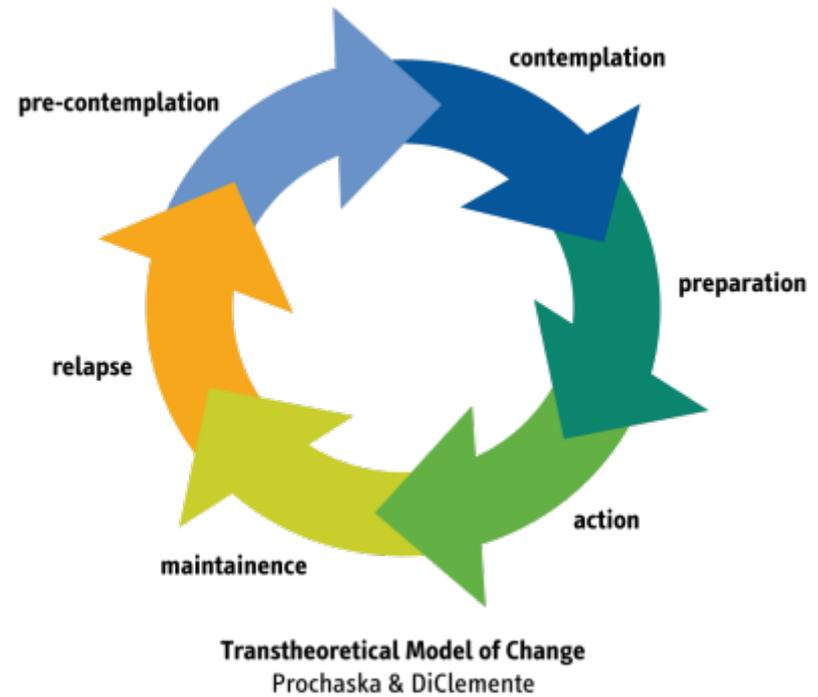
- Telephone counseling is efficacious in the treatment of tobacco dependence⁹
- Telephone counseling has been shown to increase referrals to quitlines¹⁰
- Quit rates were higher among smokers that contacted telephone help lines ¹¹
- At study initiation, smoking cessation not available through Health Buddy Programs

Role of Nurses

- Nursing-delivered smoking cessation interventions can improve the odds of quitting
- Nurses can promote continuity of care by actively reaching out to high-risk patients to improve adherence to prevention and treatment regimens
- Nurses have broad-based knowledge, intense and often prolonged contact with patients and collaborative professional style

Stage of Change

- Transtheoretical Model of Change provides the theoretical framework¹²
- Assessed the stage of change to evaluate readiness and customized our intervention
- Able to reach veterans at all stages of change, including relapse and those not ready to make a change to their smoking



Motivational Interviewing

- MI is a “directive (goal oriented), client centered counseling style used to enhance intrinsic motivation by helping clients explore and resolve ambivalence about behavior change”^{13,14}
- MI is the method of communication that was used to enhance readiness to change
- MI is non-confrontational – it is a good fit for veterans with PTSD

Tobacco Cessation Curricula Integration

During Pilot:

- Composed MI-based tobacco cessation curricula in conjunction with MI experts
- Integrated new tobacco cessation module into existing PTSD platform (Enhanced PTSD Program)

New in RCT:

- Revisions to the Enhanced PTSD Program
- Research surveys incorporated into the Health Buddy

Quality Assurance checks with vendor and MI coach

Tobacco Cessation Content: Covered Topics

Sublibrary	Dialogue	Session	Session													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
	1 Introduction															
001	Welcome to Smoking Cessation		y													
	2 Current History/Daily History		y	y	y	y	y	y	y	y	y	y	y	y	y	y
001	Addiction Scale			y												
002	Smoking check-up				y											
	3 Assessing Stage of Change	q28 sessions														
001	Stage of Change					y										
	4 Past History															
001	Introduction							y								
002	Past history							y								
	5 Current History/Weekly History	q 7 sessions														
001	Weekly History									y						y
	VR 12	1, 87, 180, 270	y													
	6 Basic Profile															
001	Basic Profile										y					
	7 Healthcare asks about Smoking															
001	Healthcare asks re Smoking											y				

Tobacco Cessation Content: Covered Topics

- Healthcare provider asks about Smoking
- Awareness Building – Addiction
- Awareness Building – Costs
- Awareness Building - Health Risks
- The Pro and Cons of Smoking
- Alternatives/Problem Solving
- Making Choices or Not
- Goal Setting
- Commitment
- Taking Steps
- Staying quit
- Quitting and Staying Quit
- The PTSD and Smoking Link
- Conclusion of Relationship

Tobacco Cessation Content: Pros & Cons

As you know, thinking about the risks and benefits of smoking is not easy. You probably like and dislike certain things about your smoking. Looking at the pros and cons of smoking is complicated, but not impossible. (*Patient's name*), you know that smoking has some "good" aspects to it. Also, it has some "not so good" aspects." Let's explore what those are for you.

Tobacco Cessation Content: Pros & Cons

- Here are "good" aspects of smoking that other people have shared. Please select the "good" aspects of smoking that match with you.
 - Yes or No: I like the enjoyment of a cigarette
 - Yes or No: I really need the next cigarette
 - Yes or No: it helps me relax
 - Yes or No: I like having a cigarette in my hand
 - Yes or No: it helps me wake-up and stay alert
 - Yes or No: it helps me socialize with others
- Here are some "not so good" aspects to smoking. Again, please select the ones that match with you.
 - Yes or No: I worry about my health
 - Yes or No: I want to feel better

Tobacco Cessation Content: Weekly Smoking Question

The number of cigarettes I smoked yesterday was the same number of cigarettes I usually smoke. Yes or No?

Yes

✓ Smoking is your choice and it is respected.

No

✓ So, what might be different? Please fill in the blank: I made a change to my smoking. I smoked _____ cigarettes than I usually do.

fewer

✓ This is an important change. Please take time to congratulate yourself on this change. You can talk to your nurse during your next call.

✓ I am making changes to my smoking. I smoked fewer cigarettes because...

✓ I'm making a serious quit attempt. Yes or No?

Yes

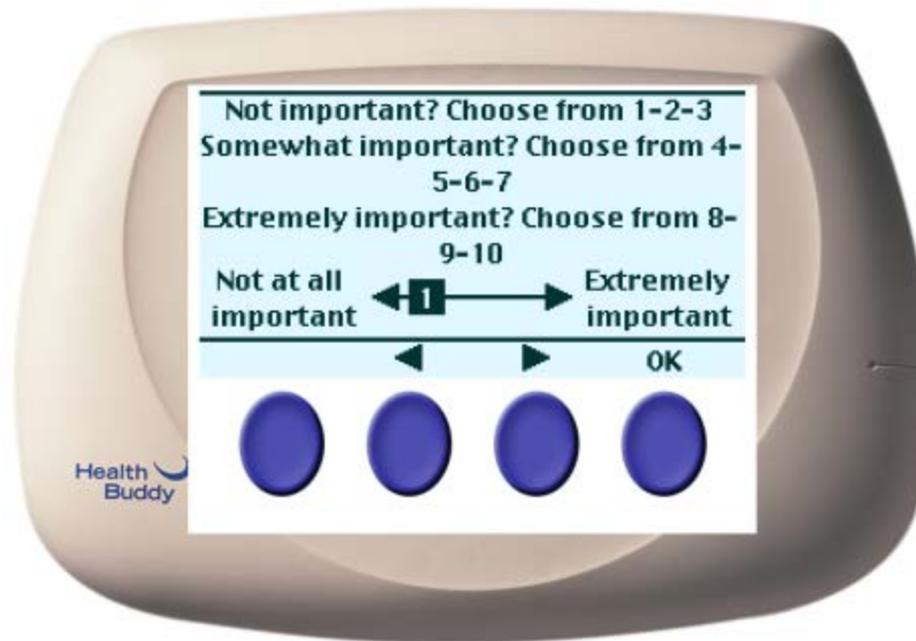
No...

more

✓ This is an important change. You can talk to your nurse during your next call.

Tobacco Cessation Content: Quit Smoking Scale

How important is it for you to quit smoking? Remember it's your choice, so choose a number from 1 to 10 on the scale that fits you.



Example of Tobacco Cessation MI Phone Counseling

Dialogue:

Nurse: “Why might you want to make a change in your smoking?”

Patient: “I’m so tired of having to go outside to smoke and the cost is crazy. At times, I can’t afford it, but I smoke anyway”

Nurse: “So the inconvenience and the cost are two negative aspects of your smoking.”

Patient: “Definitely, but I guess it’s not enough to make me quit.”

Nurse: “This week the Health Buddy asked about the positive aspects of smoking.”

Patient: “ Yeah, it helps me relax, life is crazy sometimes. Smoking calms me down.”

Intervention

- Control group
 - The PTSD Health Buddy, weekly smoking history, research study surveys, and nurse care coordination
- Intervention group
 - The Enhanced PTSD Health Buddy program (tobacco cessation curricula and PTSD), care coordination **and** weekly MI tobacco cessation counseling with a nurse
- Participants in both arms were able to receive usual tobacco cessation care if requested
- Intervention period was the time it took to complete 90 sessions on the Health Buddy followed by a 6 month follow up period

Study Population

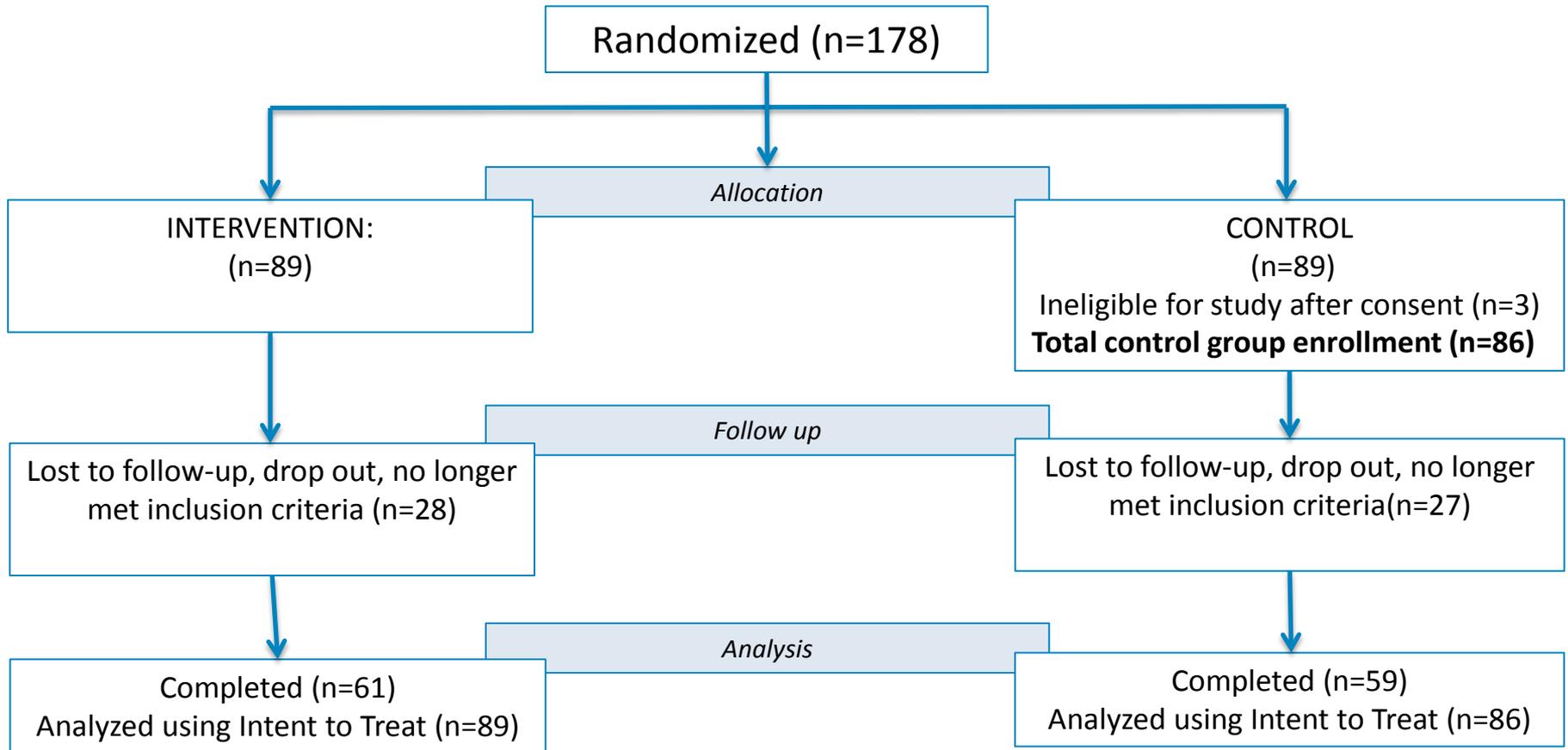
Inclusion Criteria

- Veterans that have a Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) criteria for diagnosis code 309.81 PTSD documented in medical record
- 18 years or older and willing to participate
- Currently smoking one or more cigarettes per day at the time of recruitment **regardless of interest in quitting**

Exclusion Criteria

- Use smokeless tobacco, pipes or cigars instead of cigarettes
- Have imminent risk of suicide or violence
- Have severe psychiatric symptoms or psychosocial instability likely to prevent participation in protocol (mental health or primary care provider assessed)
- Unable to connect to the Health Buddy in their home

Recruitment/Enrollment



Characteristics of Participants

Demographics	Intervention (N=85)	Control (N=83)	p-value
Gender			0.2194
Female	16.9%	10.5%	
Male	83.2%	89.5%	
Age (Mean)	54.6 years	56.6 years	0.1697
Range: 26-73 with 50% being over 50			
Race			0.6999
White	67.4%	73.3%	
All Other	32.6%	37.7%	
Unemployed	87.6%	74.4%	0.0326
Lives Alone	40%	28.9%	0.1308
School Completed			0.7021
High School Completed	17.7%	16.9%	
College Completed	18.8%	13.3%	
Substance/Drug/ETOH Abuse	31.5%	32.6%	0.8764

Research Survey Measurements

Baseline Characteristics		Intervention Score (sd)	Control Score (sd)	p-value
Fagerström Addiction Scale <ul style="list-style-type: none"> • 0-3 Low dependence • 4-6 Medium dependence • 7-10 High dependence 		N=87 5.4 (2.0%)	N=82 5.1 (2.3%)	0.4710
PTSD Checklist <ul style="list-style-type: none"> • <30 was optimal in general medical patients • 30-85 considered problematic 	T1	57.3 (11.9%) N=84	60.4 (11%) N=81	0.0819
	T2	54.5 (13.2%) N=62	55.9 (13.5%) N=59	0.4818
	T3	58.4 (11.4%) N=61	62.4 (10.9%) N=59	0.054
Geriatric Depression Scale <ul style="list-style-type: none"> • 5 is suggestive of depression • 10 is almost always depression 	T1	8.9 (3.7%) N=86	9.2 (3.8%) N=82	0.5293
	T2	7.9 (4.2%) N=68	10.0 (4.2%) N=62	0.0045
	T3	8.4 (4.2%) N=61	9.8 (3.8%) N=59	0.815

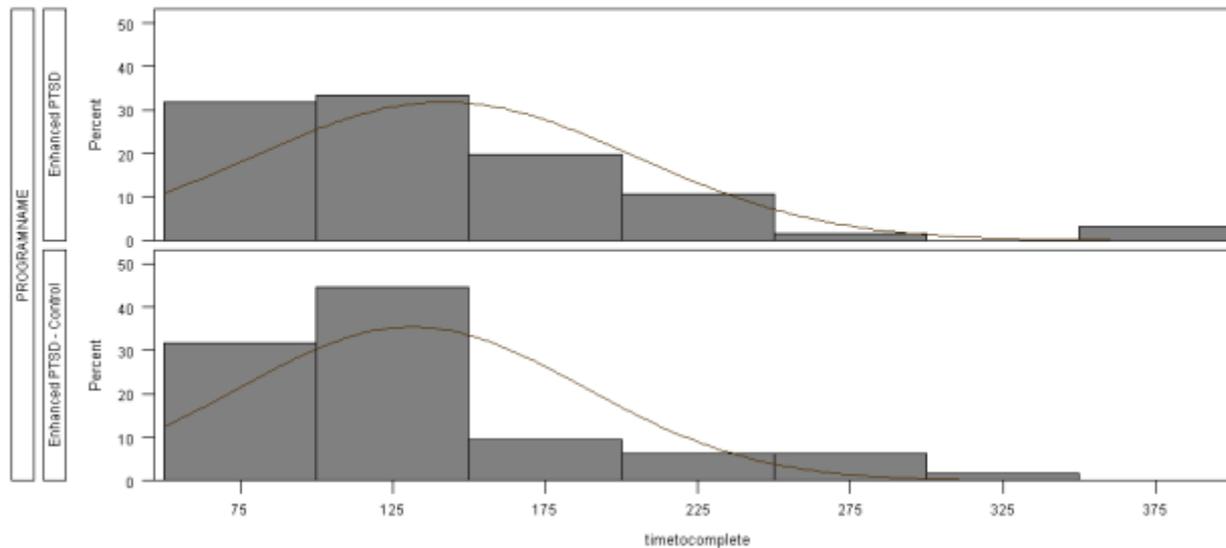
T1 = Baseline

T2 = End of Intervention Period

T3 = End of Follow-up Period

Health Buddy Use

Mean	141.8 days (sd 62.6)	131.4 days (sd 56.4)
Median	110.5 days	107 days



Overall Satisfaction with Health Buddy

Overall Satisfaction with the Health Buddy	Intervention (N=67)	Control (N=62)
Overall how satisfied are you with the Health Buddy (HB)? Satisfied/Very Satisfied	56 (83.6%)	52 (83.8%)
Since using the HB, how satisfied are you with the communication between you and your doctor or nurse? More Satisfied	45 (67.2%)	26 (41.9%)
If needed, how likely are you to continue to use the HB in the future? Likely/Very Likely	50 (74.7%)	48 (77.5%)

Self-efficacy Gained with Health Buddy

Overall Satisfaction with the Health Buddy	Intervention (N=69)	Control (N=62)
<p>Since I started answering the educational questions on the HB, my understanding of my medical condition is:</p> <p style="text-align: center;">Somewhat Better/Much Better</p>	<p>54 (78.2%)</p>	<p>38 (61.3%)</p>
<p>Since I started answering the educational questions on the HB, I am able to manage my medical condition:</p> <p style="text-align: center;">Somewhat Better/Much Better</p>	<p>47 (68.1%)</p>	<p>34 (54.9%)</p>

Satisfaction with MI Content on Health Buddy

Patient Satisfaction with Health Buddy MI Content (N=69)	Results (Yes)
My HB smoking text and questions gave me new information, but, at the same time, respected my choice to smoke or not smoke.	95.6%
Since I started answering the questions about smoking on my HB, I am ready to consider making changes to my smoking.	94.2%
My HB smoking questions have helped me see my needs or reasons to quit.	94.2%
My HB smoking questions have helped me consider a commitment to changing something about my smoking.	92.8%
My HB smoking questions have helped me see how I might be able to quit.	91.3%
My HB smoking questions helped me take one step to change my smoking.	91.3%
My HB smoking questions prompted me to talk with my health care provider about specific smoking topics and concerns.	72.5%
My experience with the HB smoking program, leads me to see myself:	As a former smoker – 49.3% Smokes fewer cigarettes – 40.6%

Satisfaction with Nurse MI Counseling

Patient Satisfaction with MI Counseling (N=66)	Mean
The study nurse and I were able to talk in a calm manner.	3.71
My freedom to smoke was respected whether I smoked or chose to quit	3.65
I feel satisfied with the weekly phone calls with the study nurse.	3.62
The study nurse listened carefully to what I had to say.	3.55
I feel two ways about my smoking, I have talked with my study nurse about what I like and dislike about my smoking.	3.44
If I chose to do something different with my smoking, the study nurse supported my change and helped me plan.	3.44
The study nurse asked me what I knew about medications that could help me quit smoking.	3.39
I now understand the reasons why it might be important to change my smoking.	3.38
The study nurse invited me to imagine myself as a former smoker.	3.29
The study nurse first asked me what I knew about a topic before she shared information with me.	3.02

Based on a 4 point Likert Scale
 1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree

Outcomes

- Primary Outcome
 - Self-reported quit attempts as measured by 24-hour point prevalence
- Secondary Outcomes
 - Progression through the stages of change
 - Sustained quit attempts

Outcome data will be measured at the end of the intervention period (T2) and at the end of the follow-up period (T3)

Outcome: 24-hour Quit Attempts

Proportion Quit Attempts			
	Intervention (N=89)	Control (N=86)	p-value
T1-T2	38.2%	32.6%	0.4351
T2-T3	27%	36.1%	0.1958

T1 = Baseline
T2 = End of Intervention Period
T3 = End of Follow-up Period

Outcome: Stage of Change

Progress Along Stage of Change (SOC)			
	Intervention (N= 89)	Control (N=86)	p-value
T1-T2	39.3%	38.4%	0.8970
T2-T3	24.7%	24.4%	0.9632

T1 = Baseline
T2 = End of Intervention Period
T3 = End of Follow-up Period

Qualitative Component

- Convenience sampling
- 32 interviews completed (15 Intervention and 17 Control)

Goals:

- Obtain participant's insights about their participation in the study and how to improve smoking cessation care and telehealth care management
- Assess perceived barriers/benefits of participation in study
- Ask for Veterans' input about how the intervention could be improved to inform the development of future interventions

Qualitative Analysis

Veterans were Positive about the Health Buddy Program

“For me it just helped, it helped give a cause to what I was doing. Trying to be more beneficial to my own health and everything else.”

“I live by myself. I’m a widow. I don’t have any children. I just have my dogs and a cat, and that flashing light every day reminds me I have a goal.”

Barriers to Health Buddy use

“Well things like being on vacation or being I am a creature of habit and I was in the habit of coming home from work, going in sitting down and doing it. Weekends were kind of a problem too because you know I didn’t come home, go turn that on and go through it and turn it off, so that was a bit of a problem at times because it wasn’t that thing that was done every day because there was a variation there.”

Qualitative Analysis

Participants thought the Tobacco Cessation Program should be longer

“When you start working on something, three months, 90-days isn’t that long. I mean when you been doing something for 50-some years... Three months gets you started and then all of a sudden you stop.”

Suggestions for improving tobacco cessation program

“Maybe more focus, more questions on are you happy with your decision to quit smoking, are you happy that you did, do you feel better, is your shortness of breath better, does food taste better? Kind of focus on all the positives of quitting smoking and bring it back to my attention... like, yea, you know I can climb a mountain now without collapsing from lack of air or whatever. And actually I was aware of all of those things and actually it did help to be aware, but maybe bringing those kinds of benefits back to the forefront after quitting would be helpful also.”

Conclusions

- We integrated the tobacco cessation curricula and study surveys into a home telemonitoring system without negative patient consequences
- The Health Buddy is a simple technology for Veterans to use
- There were high levels of patient satisfaction with:
 - Health Buddy
 - Tobacco Cessation curricula
 - MI counseling by nurse

Lessons Learned

- This population did not use the Health Buddy every day which made it difficult to track cessation
- MI allows participants to choose when they are available for scheduled telephone calls
- Frequent quality checks with home telemonitoring vendor is important

Implications

- Patients with PTSD want to quit smoking and face significant obstacles – more research needed on novel ways to promote cessation
- Stage-based tobacco cessation curricula written in the spirit of MI plus MI phone counseling may help patients with different chronic conditions
- Intervention may need to be longer than 90 sessions

Next Steps

- Continue analyzing data
- Explore integrating the Tobacco Cessation curricula into other home telehealth programs for chronic conditions such as Chronic Pulmonary Disease, Heart Failure, Diabetes, and Depression
- Consider lengthening the Tobacco Cessation curricula to 180 sessions
- Train the telehealth care managers to use MI
- Investigate adding the Tobacco Cessation curricula to other home telehealth platforms or other technologies such as text messaging along with MI counseling

Summary

- Veterans with PTSD face significant barriers to accessing cessation services
- Nurses have successfully managed chronic diseases using telehealth and can provide education and motivation regarding smoking cessation
- Our research combined stage of change and MI to assess readiness to change and customize our intervention to reach Veterans even before they verbalized a desire to quit smoking
- Veterans were highly satisfied with intervention and MI counseling
- Need to continue our analyses before coming to a final conclusion as to the effectiveness of our intervention

Contact Information

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Study was approved by the Colorado Multiple Institutional Review Board