

**Title:** Feasibility of an Emotion Regulation Intervention for Patients in Cardiac Rehabilitation

**Abstract (138 of 150 words)**

Cardiac rehabilitation is important to improve physical activity and reduce cardiovascular disease risk factors among people who have experienced a major cardiac event. However, poor emotion regulation can make it difficult to change cardiovascular risk factors. The purpose of this paper was to assess the feasibility of the Regulating Emotions to improve Nutrition Exercise and reduce Stress (RENEwS) intervention, an education program aimed at improving emotion regulation strategies among patients in cardiac rehabilitation. Fourteen cardiac rehabilitation patients (mean age 61 years) enrolled in 5 weekly RENEwS sessions. Qualitative analysis of participants' comments was used to assess eight elements of feasibility. Fifty-seven percent of participants completed the intervention. Participants thought the intervention was feasible, with strengths in the areas of acceptability, demand, adaptation, integration, and implementation. Other comments regarding practicality, expansion, and perceived efficacy provide guidance for intervention refinement.

**Keywords:** cardiovascular disease, rehabilitation, emotion, self-management, emotion regulation

Coronary Heart Disease (CHD) is the leading cause of disability and death in the United States, and is present in more than 18 million Americans (Benjamin Emelia et al., 2019). Optimal recovery from an ischemic cardiac event requires patients to engage in self-management behaviors (Song, 2009; Wierenga et al., 2019; Wu et al., 2013). For individuals experiencing an ischemic cardiac event, clinical guidelines recommend cardiac rehabilitation as an effective program to improve self-management behaviors, such as exercise, nutrition, and medication adherence, which are critical to optimizing health outcomes of patients with CHD (Ades et al., 2017; Riegel et al., 2017). For individuals experiencing a major cardiac event, psychological symptoms of stress, anxiety, and depression are common barriers to participating in and fully benefiting from cardiac rehabilitation (Chauvet-Gelinier & Bonin, 2017; Rouleau et al., 2018). These symptoms undermine disease management programs and act as barriers to effective self-management (Bauer et al., 2012; Jaarsma et al., 2010; Luyster et al., 2009; Olafiranye et al., 2011) by negatively impacting adherence with health behaviors (e.g., medication adherence, physical activity, diet, etc.). Although psychological burdens, such as depression and anxiety, are notably more frequent in CHD patients as compared to the general population (Cohen et al., 2015), self-management of emotions (including emotion awareness and regulation) is often not regularly addressed during recovery following a cardiovascular event. Despite the availability of efficacious treatments (medication and psychotherapy) for depression, these interventions do not impact adherence and outcomes in cardiac rehabilitation even when the individual experiences reductions in initial depression severity (Freedland et al., 2015; Riegel et al., 2004; Riegel et al., 2009; Swardfager et al., 2011). Given these disappointing findings, novel approaches to

treatment are needed to fill the gap, and resolve the challenges faced by cardiac patients with comorbid symptoms of depression and anxiety.

Adopting an affect science (Davidson et al., 2009) approach to emotional dysfunction in medical and psychiatric conditions provides context about how emotion influences brain processes necessary to adhere to self-management behaviors. This approach may shed new light on ways to improve self-management behaviors and reduce overall burden and suffering. Emotions stem from individuals' perceptions of internal or external stimuli that they place value on, or that relate to their goals (personal, professional, social, spiritual, etc.; (Etkin et al., 2015). Typically, emotions are short lived and guide our actions in that moment (Frijda, 1987). In the broadest sense, affect science defines emotion regulation as a form of self-regulation and refers to the process of adjustments and responses to optimize goal attainment in emotions (McEwen, 2009; Renna et al., 2020). Individuals habitually use emotion regulation strategies to alter the magnitude (lesser or greater) or duration (shorter or longer) of these emotions, often for personally relevant reasons or goals, to adjust behavioral responses in situations (Cole et al., 2004; Gross, 2013; Sheppes et al., 2015). Optimal emotion regulation results in an economic use of resources, matching the amount of effort exerted (e.g., attentional, cognitive, behavioral) to the situation, and emitting the least taxing response necessary to achieve the desired goal (Gross, 2015a). In effect, optimal emotion regulation reflects a dynamic fine tuning of our attentional and cognitive capacities to help us determine the most appropriate behavioral response given the external and internal stimuli present in a given moment (Gross, 2015b; Mennin et al., 2018). Engagement in this type of self-management of emotions is a normal daily response to adjust emotional states in a contextually appropriate way (Sheppes et al., 2015). Maladaptive emotion

regulation, however, can worsen psychological symptoms of depression and anxiety (Eftekhari et al., 2009).

Although emotion regulation interventions are generally effective at improving the ability to use emotion regulation adaptively (Gross, 2015b), they have not been optimized for adults with chronic illness, such as people with CHD. It is clear that emotion regulation interventions can mitigate psychological distress such as depression and anxiety in other populations (Mennin et al., 2018; O'Toole et al., 2019; Parsons et al., 2017; Renna et al., 2017). Situations that provoke an emotional response, whether internal or external, are an everyday occurrence (Sheppes et al., 2015). For individuals with CHD, particularly those who have experienced a new major cardiac event such as an MI or CABG, an emotional response is common. After a cardiac event, disease or treatment related situations or stimuli can seem overwhelming, such as the firing of a defibrillator, diminishing health status, or the complexity of adhering to prescribed behavioral changes (e.g., lifestyle exercise that alter daily routines). While also experiencing situational stressors, people with CHD report using more maladaptive and fewer adaptive emotion regulation strategies than healthy controls (Bahremand et al., 2015). Although efforts to adapt emotion regulation interventions to individuals with serious illnesses are emerging, limited evidence is available to demonstrate effectiveness of emotion regulation training in adults with CHD (Appleton et al., 2013; Loucks et al., 2015). Common and successful emotion regulation strategies include mindfulness training (Kumar et al., 2008; Loucks et al., 2015; Lutz et al., 2014) to improve awareness and non-judgmental attention (Lutz et al., 2014), reframing of negative situations (Appleton et al., 2013; Ehring et al., 2010) once an emotion is present and cognitive behavioral therapy, which includes components with emotion regulation training. Effectiveness can be measured directly with a variety of different emotion regulation measures

or by indirectly examining changes in emotional distress. Emotion regulation treatments addressing multiple strategies targeted toward individuals with depression and anxiety demonstrate lasting symptom improvements, and increased quality of life (Mennin et al., 2018; Renna et al., 2017). Treatments that target emotion regulation deficits may enhance cardiac rehabilitation outcomes (self-management of exercise, nutrition, and adherence to medications) by decreasing negative psychological symptoms (Lazarus & Folkman, 1984; Sheppes et al., 2015).

Distinct from pilot studies, feasibility studies inform components that are needed for future studies, whereas pilot studies are smaller comprehensive testing of what will be a main study (Whitehead et al., 2014). A sample size of 12 per group is appropriate for informing feasibility (Julious, 2005). Critical to development of a successful intervention, early testing is necessary to determine acceptability and feasibility in the target population (Bowen et al., 2009). Feasibility testing is indicated when a limited pool of previously published interventions is available (Bowen et al., 2009), such as the case with comprehensive emotion regulation interventions for people with CHD.

Our team designed a novel multi-faceted approach to emotion regulation in participants with CHD, called RENEwS© (regulating emotions to improve nutrition, exercise, and stress). A repertoire of emotion regulation strategies is better suited to managing diverse situations (Aldao et al., 2015), thus, the RENEwS intervention includes a variety of emotion regulation strategies and focuses on those that may be more effective for adults. This intervention teaches emotion regulation as a mechanism to diminish symptoms of depression and anxiety and improve the self-management of nutrition and exercise. The purpose of this paper is to describe the RENEwS intervention and report participant feedback about the intervention's acceptability and feasibility.

## Method

### Study Design and Sample

This study is a qualitative analysis of a pilot study testing the RENEwS intervention to decrease depression and anxiety and improve physical activity and nutrition in cardiac rehabilitation participants. This study received oversight and approval from an Institutional Review Board at a Midwestern US university. Potential participants were approached in a single cardiac rehabilitation clinic in 2017-2018 if they met the following inclusion criteria: 1) experienced a first myocardial infarction (MI) or coronary artery bypass graft (CABG); 2) were  $\geq 40$  years of age; 3) had a planned 12 weeks of phase II CR; and 4) lived independently. Individuals excluded were non-English speakers, those who had experienced a cardiac arrest, or had an implanted cardiac defibrillator. Fourteen individuals from a cardiac rehabilitation center participated in the study.

### RENEwS Intervention

The RENEwS intervention aims to improve the use of emotion regulation strategies, and is specific to the needs of patients in cardiac rehabilitation. Carefully selected strategies include those for which adults have shown greater effective use. These strategies, included in Table 1, were carefully adapted to align with theoretical and empirical knowledge of emotion regulation, stress and coping, and self-management of people in cardiac rehabilitation (Lazarus & Folkman, 1984; Sheppes et al., 2015). Specifically, all examples of emotion regulation strategies were tied to familiar expectations and situations for people recovering after an acute MI or CABG. Content analysis with experts in emotion regulation and self-management behaviors was conducted to improve theoretical and intended core content alignment. To increase discussion of the use of the RENEwS intervention, a group approach was used. RENEwS consisted of five weekly 60-

minute group sessions led by a trained interventionist. The interventionist, a registered nurse, had experience working with cardiovascular patient populations, and received one-on-one training in the delivery of the intervention. This training included reviewing all core content and practice teaching content back to the PI. Groups consisted of two to five participants. At the beginning of the RENEwS intervention, participants received a binder with content for all five sessions and associated worksheets (see Table 1 for a list of core content). Intervention sessions were divided between didactic presentation of material, active practicing of techniques, group work focused on case studies, and worksheets for further practice at home. Core content delivered in the intervention included: 1) emotional awareness, 2) balancing emotional and physical wellbeing, 3) selecting and implementing emotion regulation strategies (such as situation selections, mindfulness, engagement/avoidance, reappraisal, and emotional sharing), 4) emotional monitoring, and 5) how and when to switch strategies when one is not effective.

### **Data Collection and Measurement**

Demographic and clinical characteristics were self-reported at the time of enrollment. Attendance and content delivery were measured using an attendance sheet and an imbedded checklist of intervention content observed at each intervention session. Feasibility and acceptability were measured using qualitative notes recorded during group intervention sessions. The qualitative notes included quotations from participants regarding feasibility of the RENEwS intervention. Additionally, data were collected on the time commitment of the interventionist. A dedicated research assistant received training on collecting data, and a copy of the intervention workbook to reference. A checklist was imbedded in this workbook to assess content delivered with detailed information about the amount of time spent in each core area. The research

assistant took notes regarding participant comments about delivery and the content covered during the sessions. Data were collected at every RENEwS intervention session.

## **Analysis**

Descriptive statistics were used to describe demographic and clinical characteristics. Quantitative data were analyzed using SPSS version 25 (IBM, 2017). Collected qualitative data were analyzed using a qualitative content analysis with a directed approach by a single investigator with verification by an additional investigator. This approach is preferred since the analysis stems from the feasibility guidance of Bowen et al. (2009) (Hsieh & Shannon, 2005). A guideline for coding was developed from the eight areas of focus in feasibility studies described by Bowen et al. (2009). These areas of focus were modified as distinct coding elements that reflect the unique experiences and needs of individuals recovering in cardiac rehabilitation programs. The coding elements included acceptability, demand, implementation, practicality, adaptation, integration, expansion, and perceived efficacy. Modifications included changing all general language regarding programs or interventions in the elements to the RENEwS intervention. This change helped to differentiate the contributions of usual cardiac rehabilitation to the tested intervention. Additionally, setting and situation were replaced with cardiac rehabilitation and cardiac recovery and the element of perceived efficacy was specifically targeted theoretically driven health outcomes. These modified elements became the a priori framework on which we conducted the qualitative analysis. See Table 2 for a brief description of each of these modified components. Results were verified by an additional investigator for fit of quotes into the coded elements.

## **Results**

### **Descriptive Characteristics**

Of the 14 participants, 12 were recovering from a MI and two from a CABG. Participants ranged from 52 to 76 years of age, with a mean of 61 ( $SD = 7$ ) years of age. The majority of participants were male (71%) and white (71%), and all had completed at least some college. These demographics are representative of cardiac rehabilitation program participants nationally.

### **Attendance and Content Delivery**

Attendance at sessions was split with 57% completing the intervention (4-5 sessions), and 43% not completing the intervention (0-1 sessions). Of those who did not complete the intervention, one died, two withdrew from the study, and three reported scheduling conflicts that prohibited attendance. All participants attending at least one session were included in this qualitative feasibility analysis to provide feasibility information for both completers and non-completers. This included all of those in the completer and 67% in the non-completer groups.

The RENEwS sessions were delivered by the interventionist with an average of 99% of content delivered over the 15 sessions. Start times varied with two groups asking to “wait a few minutes” for their peers if they were running late. In the other group, individuals preferred an on-time start to accommodate busy schedules. In all three groups, individuals were occasionally late and missed some content. In these instances, the interventionist would recommend that the participant review the information in the paper RENEwS binder and allowed for time after the session to answer any questions. Assigned practice sheets between sessions were rarely completed (less than 10% of all sheets completed), with participants noting that they “like completing them with the group.”

### **Intervention Feasibility and Acceptability of the RENEwS Intervention**

Imbedding the RENEwS intervention within the cardiac rehabilitation center required staff and interventionist time, as well as some provision of facility resources. A dedicated private

location was needed within the center to provide the RENEwS intervention. The room had to be scheduled for approximately two hours per session to allow time to set up the room, conduct the session, and restore the room. Intervention supplies included color printed pages of the workbook and worksheets for each participant. The interventionist required additional supplies, including a teaching guide, large printouts of workbook pages, and markers for writing participant ideas during session discussions. The interventionist received training and rehearsed provision of RENEwS for 25 hours prior to the first session. In addition, for each session of RENEwS, the interventionist prepared for the session, set-up the environment, delivered the intervention, and returned the environment to the clinic's needs, which took about 3 hours total. This accounted for 40 hours for the first group of participants and 15 hours for subsequent groups of the interventionist's time. Cardiac rehabilitation staff time was minimal, less than 10 minutes per participant over the course of the intervention, but integral to the success of RENEwS. Staff provided reminders to participants to attend the RENEwS sessions weekly during their regular exercise times and directed participants to the session location when needed.

### **Elements of Feasibility**

Each of the elements were identified within the data collected. Participants (88%) described the intervention as *acceptable*, with remarks on both satisfaction and fit (See Table 3). In the element of *demand*, participants spoke of their real or intention to use the RENEwS content while providing feedback and encouragement to each other in group discussions. Participant reflection on their *implementation* of RENEwS also was apparent, with participants identifying personal preferences that were affecting use of strategies. Individuals vocalized *adaptation* as they built off examples and other participants' suggestions. *Integration* of content into participants recovery efforts was noted in quotes regarding appreciation of how RENEwS

content related directly to skills learned in cardiac rehabilitation. The remaining elements identified some areas of weakness in the RENEwS intervention. In regard to *practicality* of carrying out intervention activities, participants remarked on the difficulty carrying out worksheets individually at home, and identified a need for more information about healthy living to meet their goals of recovery. The idea that RENEwS was an *expansion* of cardiac rehabilitation also was identified as challenging, as RENEwS required flexible scheduling of cardiac rehabilitation times to accommodate sessions. Additionally, participants remarked on possible limited *efficacy* of the intervention, as they perceived it would be difficult to sustain RENEwS emotion regulation strategies and physical activity following completion of both cardiac rehabilitation and RENEwS.

### **Discussion**

Previous literature has documented the importance of the inclusion of psychological support during recovery from a cardiac event (Braun et al., 2017; Chauvet-Gelinier & Bonin, 2017; Pogossova et al., 2014) and the effectiveness of emotion regulation based treatments to address depression and anxiety in other populations (Mennin et al., 2018; O'Toole et al., 2019; Parsons et al., 2017; Renna et al., 2017). Supportive treatment is a key component of recovery following a cardiac event and can include various types of physical or psychosocial support. This analysis focused on determining the feasibility of a new emotion regulation-based intervention to address psychological support. The RENEwS intervention described here is an example of one supportive program for this patient population, with promising preliminary findings of acceptability and feasibility.

Careful assessment of feasibility and acceptability of emotion regulation interventions are essential for cardiovascular patients and implementation in cardiac rehabilitation programs. The

recorded data from this study is attributed to all participants participating in any of the group sessions. Inclusion of all participants allows for comments from both those completing the intervention as well as non-completers to identify areas of strength and those of weakness. Refinement is important to clinicians and researchers. Clinicians can be provided with early guidance toward improving the psychological well-being of patients in cardiac rehabilitation. Researchers can use assessment of feasibility data in early pilot trials to help strengthen intervention efficacy and usefulness in large-scale clinical trials.

The main finding of this study was that five of the eight elements of acceptability and feasibility assessed were found to be a strength in the RENEwS intervention. These areas of strength included acceptability, demand, implementation, adaptation, and integration. Individuals recovering from cardiac events in cardiac rehabilitation are engaged in improving their health (Ades et al., 2017). Some of the strengths related to this intervention may stem from general engagement, such as demand and implementation. Based upon these findings, the content of RENEwS, with refinement may be feasible, and attention toward delivery and dose should be the focus of this refinement.

In addition to acceptable content, participants were able to adapt and integrate this content into their everyday lives as demonstrated by the remarks of participants in the qualitative analysis. Unfortunately, as noted in the perceived efficacy findings, this may be difficult to sustain. It is possible that the RENEwS content may be useful in improving both nutrition (Gianini et al., 2013; Wierenga et al., 2017) and exercise (Giles et al., 2018; Wierenga et al., 2017) with revisions to address sustaining perceived efficacy.

A specific strength of this intervention that has potential for replication in other studies and other interventions is the inclusion of interventionist-led participant discussions. The study

results indicated that discussions among participants may be key to intervention implementation and adaptation. Discussions between peers sharing in a recovery program can encourage individuals to jointly identify ways to adapt content to fit lifestyles and individual needs (Lee et al., 2018). In addition, studies of educational interventions with peer support are known to be an effective and cost efficient method of improving health outcomes (Krishnamoorthy et al., 2019). Social support is a commonly cited component of improved health outcomes for individuals reducing the risk of CHD (Lee et al., 2018), and for those in rehabilitation programs (Wobma et al., 2016). Conflicting and inconclusive evidence is present when examining overall effectiveness of peer support interventions to improve physical function (Burton et al., 2018). The inconsistency of peer support intervention results may be the product of a specific intervention or related to the specific populations. This variability in success from peer support interventions further strengthens the argument for carefully developing and testing interventions.

For individuals in cardiac rehabilitation, educational sessions (nutrition, stress management, smoking cessation, etc.) are important parts of the curriculum, but may be poorly attended or not offered in all cardiac rehabilitation programs (Ades et al., 2017; Moghei et al., 2019). Although the majority of participants attend educational cardiac rehabilitation sessions, some individuals may have difficulty staying or coming early to attend educational sessions. With important content delivered in educational sessions, it is of concern that this information may not reach all cardiac rehabilitation participants. Some cardiac rehabilitation sites may have greater flexibility than others to provide multiple educational times for participants, which can improve attendance and feasibility (Ades et al., 2017). Poor attendance is one of the drawbacks of providing education both clinically and in research for participants with busy lifestyles. A variety of reasons are provided for non-attendance by cardiac patient populations. In this study,

work and family commitments were indicated. Flexible scheduling is particularly important for individuals who may have work or family obligations that make it difficult to attend synchronous educational sessions. Electronic or mobile boosters of educational content may help individuals rehearse cardiac rehabilitation content at home, which would support both individuals attending and those unable to attend. Mobile health delivery platforms are becoming more common and have shown to be effective in improving health outcomes for those in recovery programs (Hamilton et al., 2018; Shukla et al., 2017). Adaptation of RENEwS content to an electronic format may provide improvements to each area of weakness found in this study.

### **Suggested Changes to the RENEwS Intervention**

Elements that can be used to refine the RENEwS intervention were practicality, expansion, and perceived efficacy. For both practitioners and researchers, it is important to note that RENEwS attendance was challenging for some participants. Reinforcement of content may be needed and may be better suited with individualized timing or asynchronous availability. In-person sessions require careful coordination between site staff, study staff, and participants. For example, a content-adaptable online delivery system has the potential to increase the generalizability of the study by eliminating barriers of practicality and expansion. An online intervention format is cost- and time-effective (i.e. can be delivered at the participant's desired time), and can be delivered to participants regardless of geographical location (i.e. on the participant's cell phone or computer in the home setting). Also, adapting the online intervention materials to meet the individual needs of the participant may enhance education, and elicit real-time measurements (i.e. time stamps of the intervention delivery and completion through the online intervention application) of the effects of the intervention. With the interventionist as a key component of the RENEwS program, an online delivery system would require the

interventionist to be flexible to meet with participants when they are available. Additionally, it is important to note that an online version may lose a benefit of peer support or interaction. Current technology is available and accessible for both content delivery and remote discussions, and therefore should be considered to improve practicality, expansion, and perceived efficacy of educational programs such as RENEwS.

### **Study Limitations**

This feasibility analysis provides qualitative guidance to further the development of emotion regulation interventions for participants in cardiac rehabilitation. As this was a qualitative analysis, determination of confounding variables, such as participant engagement or social support, was not possible. Screening for negative psychological symptoms was also not accounted for in this investigation. Additionally, due to this small sample at a single cardiac rehabilitation center, the participant comments are likely not generalizable to the larger population of those recovering from cardiac events. Further, a quantitative test of efficacy is necessary to determine the extent to which the RENEwS intervention produces its intended effects on the emotional and physical outcomes of patients in cardiac rehabilitation.

### **Conclusion**

Our preliminary findings suggest that the RENEwS intervention has several strengths including acceptability, demand, implementation, adaptation, and integration. This is a critical first step in discovering a treatment that may improve emotion regulation, and thereby self-management behaviors of those recovering from a cardiac event. Participants receiving the RENEwS intervention subjectively reported it to be helpful for cardiac event recovery. Furthermore, the study participants indicated there was a need for the RENEwS intervention in order to mitigate the emotional distress during recovery. Areas of the RENEwS intervention

needing improvement were practicality, expansion, and perceived efficacy. In particular, participants found it difficult to attend an additional in-person educational event and wanted more information on implementing strategies in their own lives. Participant comments regarding the intervention provides important contexts to the unique needs of those recovering from a first cardiac event. Overall, this feasibility and acceptability analysis provides guidance on how to improve delivery, further test, and implement the RENEwS emotion regulation intervention in order to improve the recovery of individuals following a CHD-related event.

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Table 1

*RENEwS Core Content*

Session	Included Content
1	<ul style="list-style-type: none"> <li>• Description of fear, anxiety, disgust, anger, sadness, shame, joy, interest, and contentment</li> <li>• Purpose and use of emotion regulation</li> <li>• Becoming aware of emotions</li> <li>• Becoming aware of situations</li> <li>• Perseverance and confrontation in self-management of emotions and health behaviors</li> </ul>
2	<ul style="list-style-type: none"> <li>• Overview of emotion regulation strategies</li> <li>• Evaluating current and potential use of emotion regulation strategies</li> </ul>
3	<ul style="list-style-type: none"> <li>• Building awareness of situations and emotional responses</li> <li>• Selecting and changing situations to support physical and emotional health</li> <li>• Choosing what to pay attention to</li> <li>• Mindfulness walking</li> </ul>
4	<ul style="list-style-type: none"> <li>• Changing emotional thought patterns</li> <li>• Changing emotional response patterns</li> <li>• Evaluating health challenges</li> </ul>
5	<ul style="list-style-type: none"> <li>• Recognizing effectiveness of individual emotion regulation strategies</li> <li>• Changing emotion regulation strategies</li> </ul>

*Note:* Content of this table, the RENEwS© intervention, is printed with permission from the author.

Table 2

*Elements assessed in qualitative review of participant responses to the RENEwS intervention*

Element	Description of included content
Acceptability	Satisfaction, intent to continue use, perceived appropriateness, and fit within cardiac rehab or recovery culture
Demand	Actual use of RENEwS, expressed interest or intention to use, perceived demand
Implementation	Degree of execution, success or failure to implement RENEwS strategies, amount and type of resources needed to implement, factors affecting ease or difficulty with use of strategies, efficiency, speed, or quality of implementation
Adaptation	How strategies can be used in different situations
Integration	Perceived fit within cardiac rehab or within the participants recovery, perceived sustainability, or costs to cardiac rehabilitation clinics to provide RENEwS
Practicality	Ability of participants to carry out intervention activities, any discussion of cost or extra resources needed to use strategies
Expansion	Positive or negative effects of RENEwS on cardiac rehab programs or disruptions to the normal cardiac rehabilitation programs
Perceived Efficacy	Maintenance of skills over time, effects of RENEwS on psychological distress, nutrition, exercise, quality of life or other health related outcomes

Table 3

*Participant quotes regarding assessed feasibility elements*

Elements	Quotes
Acceptability	“I’m looking forward to the next session.”
	“Great ideas are coming from this.”
	“The framing and organization of this are helpful for my future.”
Demand	“I recently caved and went into a fast food restaurant. I was salivating over the thought of a burger, but I ordered a fish sandwich instead.”
	“As I get older, I become more candid and honest.”
Implementation	“I have been doing mindful walking.”
	“I did not try walking, but I do my worksheets.”
Adaptation	“In order to overcome the fear [of my heart attack], I just walked a 3K a couple days ago.”
Integration	“Cardiac rehab and RENEwS together are making me stronger and better.”
	“RENEwS with cardiac rehab is great reinforcement of behaviors to implement and continue.”
Practicality	“People are good at succeeding if they write down a plan... Commit to it within yourself.”
	“I would love information on beginners cooking classes.”
Expansion	“I just can’t miss any more work.”
Perceived Efficacy	“It will be hard to keep the routine when it's all over.”