

Preliminary Feasibility Study of a Community-Based Wellness Coaching for Cancer Survivors Program

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Abstract

Purpose: In the United States, there are almost 17 million cancer survivors who often have poorer health outcomes and an increased risk for developing a second cancer and other chronic illnesses. Evidence suggests substantial cancer burden may be prevented through lifestyle modifications. The purpose of this study was to determine the feasibility of health coaching for the improvement of health, fitness, and overall well-being of cancer survivors in a community setting.

Methods: Participants were recruited from community-based cancer agency locations. Health coaching was provided to people diagnosed with cancer anywhere along the cancer survivorship continuum. Coaches provided six individual sessions to each participant. Surveys were sent pre- and post-intervention on topics including fitness, eating habits, perceived stress, anxiety, depression, and quality of life. Results were analyzed using repeated measures multilevel modeling.

Results: 48 participants completed an average of 85% of health coaching sessions. Coaching participants noted significant improvements in weekly physical activity, including moderate-vigorous physical activity. Small significant increases were found in healthy eating behavior. Participants reported moderate change in the quality of their sleep and smaller significant changes in sleep duration and sleep efficiency. Moderate significant reductions were found in perceived stress and anxiety, with small but significant decreases in depression. Importantly, participants reported improved quality of life, particularly in areas of physical and emotional well-being. Smaller increases were found in functional and total well-being.

Conclusion: Preliminary findings indicate real behavior change in the measured outcomes and suggests health coaching may be an important tool for cancer survivorship.

Background

The prevalence of cancer survivorship in the United States totals close to 17 million people and is estimated to increase to over 22 million by 2030 [1]. This is in part due to the overall aging population, but is also due to an increase in cancer screenings, more sensitive detection methods, and more targeted and advanced treatments [1]. This allows cancers to be detected earlier and treated more effectively, which is associated with increased survivorship. While cancer is still the second leading cause of death in the U.S., from 2001-2017 the mortality rates have declined while 5-year survival rates have increased, meaning people are now living longer with the disease. Survivors are often at an increased risk of developing a second cancer or comorbidity, so finding a way to mitigate these burdens could have a positive effect on quality of life (QoL) and other long term health outcomes [2,3].

A Healthy Lifestyle

The National Cancer Comprehensive Network (NCCN) has guidelines that recommend several healthy lifestyle habits for survivorship [9]. They recommend survivors engage in 150-300 minutes of moderate

intensity or 75 minutes of vigorous intensity aerobic activity per week along with strength training that involves all muscle groups two to three times per week. The American College of Sports Medicine (ACSM) Roundtable Report on Physical Activity concluded there is consistent, compelling evidence that physical activity plays a role in preventing many types of cancer while also improving longevity and cancer related side effects among cancer survivors. Even 30 minutes of moderate to vigorous activity three times per week was enough to help relieve the burden of cancer related fatigue, anxiety, and depression, while helping to increase physical function and health-related QoL [10].

The NCCN recommends eating a diet high in vegetables, fruit, and whole grains with a reduction in excess sugars, fried foods, and red meat [9]. Diets higher in fruits, vegetables, and whole grains have been associated with increased survival after cancer diagnosis and treatment, especially when coupled with physical activity and weight maintenance [11,12]. Ensuring adequate caloric intake and counteracting any nutritional deficiencies experienced can help to reduce symptoms and improve QoL, but a healthier diet may also impact cancer progression, overall survival, and possibly risk of recurrence [11,12].

They also recommend cancer survivors get an adequate amount of sleep [9]. Negative changes to sleep patterns in cancer survivors have been associated with more severe fatigue, less energy, more pain, increased weight gain, and lower physical and emotional functioning scores leading to impairments in being able to perform daily tasks causing an increased risk of anxiety and depression. Those who have undergone treatment for their sleep disorder have shown lower levels of depression and anxiety as well as increased QoL compared to those who have not [13–15].

The NCCN also has suggestions for standards of care regarding distress [16]. Feelings of anxiety, depression, and distress can interfere with a patient's ability to cope with their cancer, with depression being associated with a high risk of medical non-compliance [16,17]. Left unmanaged, stress is associated with higher all-cause and cancer related morbidity and mortality, as well as decreased QoL [18]. Exercise, education on stress management techniques, appropriate symptom management, and support groups may help to diminish the effects [16,19].

While all of these factors have been individually studied in cancer survivors, they often overlap and are interrelated. Psychological distress or sleep disturbances can cause symptoms of anxiety and depression, but those who already have mental health problems may experience more distress or sleep problems [14,15,18]. While optimal nutrition and physical activity are important components on their own, they are often compounded when combined [9,11]. Cancer and treatment related symptoms can diminish QoL, which is associated with negative clinical outcomes, but can be improved upon with changes to any of the lifestyle factors previously mentioned. When considering community and population level change, it may be important to consider multiple behavior changes to elicit the best outcomes for healthy cancer survivorship.

Health and wellness coaching (HWC) can be a viable tool for creating lasting, sustainable behavior change for cancer survivors via healthy lifestyle and lifestyle modifications. HWC coaches work with clients utilizing a client-centered approach to address the health topics most important to the individual

[20]. Sessions are tailored to the client and utilize techniques such as motivational interviewing, goal setting, and creating accountability within a nonjudgmental environment [21]. HWC has been found to be effective in the general adult population for changing a variety of health behaviors such as increasing physical activity, improving nutrition intake, weight loss, and sleep improvements which subsequently reduces risk factors for various chronic diseases [22,23]. Clients often experience a sense of empowerment and increase in self-efficacy towards self-management techniques [20]. However, HWC has not been well studied with cancer survivors. The HWC interventions that do exist for this population tend to center on pain management [24,25]. Very few focus on multiple behavior changes and those that do, often focus on just one type of cancer [26,27].

Due to the variability of the symptoms experienced by cancer survivors, having an individualized, tailored program suited to their particular health priorities and abilities could help to facilitate adherence to behavioral changes, thereby improving overall health outcomes. By working within an established cancer community support setting, survivors can participate in a comfortable and familiar non-clinical environment with additional resources and programs readily available to them to help support their behavior change.

With limited literature around HWC in this population, there is little guidance as to how to best implement a program of this sort. To fill this need, we designed a HWC intervention with the aim to determine the feasibility of implementing a HWC program within a cancer community setting. In addition, to determine the real-world effectiveness of HWC for improving health, fitness, and overall wellbeing of cancer survivors over a three-month time period.

Methods

Project Overview

The “Wellness Coaching for Cancer Survivors” program was an intervention aimed at providing individualized HWC services to cancer survivors anywhere along the cancer continuum throughout a mid-Atlantic state in a community-based setting. The project was a collaboration between a community-based cancer agency and two mid-Atlantic universities, using certified health coaches [28]. Approval was obtained by both Institutional Review Boards.

Setting

Cancer survivors anywhere along the cancer continuum from early diagnosis through long-term survivorship were recruited for the study through the community-based cancer agency’s locations. The community-based cancer agency is a statewide non-profit community organization that provides cancer survivors and their caregivers and/or family with counseling support groups, educational workshops, exercise and nutrition groups, and other programs free of charge to help cope with and manage the emotional aspect of cancer.

Study Design and Participants

A single group pretest-posttest design was utilized for this study. Participants were recruited through flyers, email, and an advertisement in the agency's weekly newsletter. Those who showed interest were contacted by the research coordinator to complete a phone screen to determine eligibility. Participants were considered eligible if they (1) were over the age of 18, (2) had been previously diagnosed with cancer at any time in the past, and (3) were able to read and complete an online questionnaire. There were no exclusion criteria independent of the inclusion criteria. If eligibility criteria were met, informed consent was obtained. Baseline and 3-month post-program follow-up assessments were completed online using a REDCap database.

Program

Six individual HWC sessions were provided over a three-month period to cancer survivors. Sessions were led by certified health coaches and followed the standard treatment model used by the host institution [28]. The first session was a 90-minute in-person session and held at one of the community locations. The remaining five sessions were approximately 30-minutes in length and conducted either in-person, telephonically, or through a secure video conferencing platform, as designated by participant preference. Sessions were tailored to the individual, allowing them to talk about the most important aspects of their health and what behaviors they were most interested in changing during the next three months.

Data Collection

Following the phone screen, participants were sent an email with an individualized link to the surveys, collected in REDCap [29]. Surveys were completed in the same manner approximately three months later and sent immediately following their final HWC session.

Instruments

Physical Activity Readiness Questionnaire (PAR-Q) [30]. The PAR-Q consists of seven questions assessing whether a person is physically ready to engage in physical activity, or whether they should consult a doctor before beginning an exercise program. The PAR-Q questions were verbally asked during the phone screen. In the event someone failed the PAR-Q, they were asked to contact their primary care provider and obtain medical clearance. Until permission was gained through a healthcare provider, participants were not allowed to be coached around exercise or physical activity.

Demographics and Health Coaching Questionnaire. Demographic information included gender, age, race, ethnicity, marital status, education, and income. Medical information included cancer type, stage, and date of diagnosis, as well as whether the participant had surgery, chemotherapy, or radiation to treat their cancer. The Health Coaching Questionnaire included general physical activity and sleep habits as well as additional information regarding smoking or intake of alcohol.

Perceived Stress Scale (PSS) [31]. The PSS is a 10-item measure used to determine participants' psychological perception of stress within the last month. Positive questions are reverse scored and scores are summed for a total perceived stress score. The higher the score, the more stress the participant perceives experiencing (baseline α : 0.87).

Functional Assessment of Cancer Therapy: General, Version 4 (FACT-G) [32]. The FACT-G is a 27-item questionnaire measuring four facets of cancer related QoL: physical well-being, social and family well-being, emotional well-being, and functional well-being. It provides scores for each individual subscale, as well as a total score. Higher scores indicate higher reported health related QoL (baseline α : physical = 0.80; social = 0.86; emotional = 0.87; functional = 0.86; total = 0.91).

Hospital Anxiety and Depression Scale (HADS) [33]. This 14-item scale assesses anxiety and depression separately and categorizes symptoms as "normal", "borderline abnormal", or "abnormal". In this study, this scale was included as a screening tool to help determine if the participant needed to be referred to a mental health professional before beginning the program (baseline α : anxiety = 0.88; depression = 0.89).

Rapid Eating Assessment for Patients Short Form (REAP-S) [34]. This 16-item questionnaire assesses various eating habits. The higher the score, the healthier a person's overall eating habits (baseline α : 0.75).

International Physical Activity Questionnaire – Short Form (IPAQ) [35]. The IPAQ is a seven-question measure assessing the number of bouts of vigorous physical activity, moderate physical activity, and/or walking a person does on average in a seven-day period in their leisure time as well as how many minutes they spend during each bout. The questionnaire also assesses how many minutes per day a person spends sitting. Bouts per week, minutes per week, and MET-minutes of moderate-vigorous and total physical activity was calculated and assessed.

Pittsburg Sleep Quality Index (PSQI) [36]. The PSQI measures various aspects of sleep and sleep patterns in adults. Nine questions determines subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction over the last month. Scores of 5 or above are indicative of poor sleep (baseline α : 0.71).

Statistical Analysis

Analyses were conducted on the baseline sample (N=51) using IBM SPSS version 26 [37]. Variable distributions were inspected, and a 5% winsorization technique was applied to preserve out-of-range rank order values in the distribution while limiting their influence [38]. Demographic information was analyzed using means and standard deviations for continuous variables and frequency or percentages for categorical variables. Our analyses examined the overall effects of the program on eliciting change in the various behaviors from baseline to program completion. To do so, estimated marginal means models were computed for each instrument and corresponding sub-scales. Model effects were further decomposed using pairwise comparisons. In addition, Cohen's d, a distribution-based effect size measure,

was calculated for each outcome variable between baseline and program completion. Cohen's *d* effect sizes can be interpreted as 0.20 as a small effect, 0.50 as a medium effect, and 0.80 as a large effect [39].

Results

In this study, 58 people completed the phone screen, 51 completed baseline measures and 48 initiated the coaching process (**Figure 1**). Of those who began coaching, the sample was primarily White, non-Hispanic, female, aged 45 or older, who were married and well educated with a college degree or higher (**Table 1**). The most common type of cancer diagnosis was breast cancer (41%) and 10% of the population had been diagnosed with more than one type of cancer (**Table 2**). The average number of HWC sessions attended was 5.13 of 6 sessions, or 85.4% of sessions (**Table 3**). No adverse effects were reported over the course of the program.

Coaching participants noted significant improvements in weekly physical activity frequency, including weekly moderate-vigorous physical activity frequency ($p < 0.01$, $d = 0.51$; $p = 0.016$, $d = 0.43$). No significance changes were found in total physical activity minutes per week, total moderate to vigorous physical activity minutes per week, weekly sedentary minutes, or in either MET-minute calculation. Small significant increases were found in healthy eating behavior ($p = .009$, $d = 0.40$). Participants reported moderate change in the quality of their sleep ($p = 0.006$, $d = 0.46$) and small but significant changes in the duration of their sleep ($p = 0.05$, $d = -0.35$) and sleep efficiency ($p = 0.035$, $d = 0.27$). Changes in sleep latency, sleep disturbance, sleep medication usage, and daytime dysfunction were not found to be significant. Moderately significant reductions were found in perceived stress ($p < .001$, $d = 0.53$) and anxiety ($p < .001$, $d = -0.57$), with small but clinically significant decreases in depression ($p = 0.10$, $d = 0.35$). Participants reported improved QoL, particularly in areas of physical ($p < .001$, $d = 0.46$) and emotional well-being ($p < .002$, $d = 0.56$). Smaller increases were found in functional ($p = 0.011$, $d = 0.36$) and total well-being ($p = 0.002$, $d = 0.39$) (see **Table 4**).

Discussion

This study aimed to determine the effectiveness of HWC for improvements in health, fitness, and overall wellbeing of cancer survivors within a community setting. Since survivorship is on the rise, mitigating the burden of cancer and its treatment through the modification of lifestyle factors is imperative to improving health outcomes [8]. HWC has been shown to have positive effects on many of the outcomes considered in this study in other populations [23,40,41].

From baseline to 3-month follow-up, participants reported statistically significant and clinically meaningful improvements in overall physical activity frequency and moderate-vigorous physical activity frequency, adding an average of two bouts of physical activity per week with one bout of moderate-vigorous physical activity each week. This points to participation in leisure activity more often and at a greater intensity. It has been previously noted that physical activity interventions including behavior

change techniques such as goal setting, social support, and action planning are more likely to be successful at maintaining long-term results, all of which are inherent in HWC [42]. It was also noted that interventions involving older adults with physical limitations, those involving less contact with participants, and those without a supervised exercise component were more likely to be ineffective [42]. However, 60% of our participants failed the PAR-Q suggesting underlying comorbidity or physical limitation. Almost two thirds were aged 55 or older and coaching duration was limited across three months, yet significant results were found, suggesting HWC may be a viable method to elicit change in a less time intensive manner. While significance was not found for the number of minutes or MET-minutes for overall and moderate-vigorous physical activity, this might be explained by a ceiling effect, as our participants reported being fairly active at baseline.

A small, significant improvement was found in healthy eating behaviors. The improvement in overall healthy eating behaviors points towards participants increasing their intake of fruits, vegetables, lean proteins, and/or whole grains while reducing intake of sugar and saturated fats [34]. Prior studies assessing diet in cancer survivors have often used dietary counselling and goal setting as part of their modality, providing a foundation that HWC might elicit similar responses [43]. Coupled with increases in physical activity, this is promising for both cancer prevention, recurrence, and predicted cancer outcomes.

Significant improvements in sleep, notably in quality of sleep, duration of sleep, and sleep efficacy were found, suggesting participants were sleeping longer, sleeping better, and falling asleep more quickly. Negative changes to sleep patterns in this population have been associated with more severe fatigue, having less energy, and more pain, leading to impairments in performance in daily tasks and increases the risk of anxiety and depression [14,15]. This in turn affects physical and emotional wellbeing which may be mitigated when the sleep disturbance is modified. While it is well known that physical activity can reduce stress and anxiety, improving sleep has also been shown to reduce symptoms of anxiety and depression and increase QoL in cancer survivors [9,13].

Improvements in QoL, particularly in the areas of physical, functional, and emotional wellbeing were also noted. QoL has been shown to be interrelated with, and often a byproduct of, other behavioral factors. As previously mentioned, being physically active, improving sleep metrics, and stress management have all been shown to independently improve wellbeing [10,13,19]. Evidence also suggests that the more healthy lifestyle behaviors a person engages in, the better their perceived QoL, so improvements in the QoL metrics could be due to independent, or a combination of, behavior changes [45].

Strengths & Limitations

Compared to many other interventions, HWC is less time intensive yet may permit scaffolded behavior change to emerge through specific goal setting. Over the course of three months, participants meet with coaches less than five hours total. HWC is highly individualized, allowing the cancer survivor to work on the issue most important to them while also addressing their own barriers and facilitators towards change. Having this type of flexibility within a program increases the potential for participant adherence and also future sustainability and adoptability of the program within a cancer care setting.

There are also several limitations, most notably the single group study design. Future work should consider the use of a control or comparison group to usual cancer care to increase legitimacy of the results. Participants ranged across the cancer continuum in diagnosis, stage and various treatment interventions. The impact of coaching may have a different role for various impairments at different times, depending on whether a person is currently undergoing cancer treatment or is post-treatment. Because participants were those who showed interest in health coaching and the data collected was completed by the participant, self-selection and self-report bias should also be considered. While this study provides valuable information about the feasibility of implementing a HWC intervention for cancer survivors within a community setting, the small sample size and predominately homogenous sample may limit generalizability. Further research should examine intervention effects in various subgroups of cancer survivors, for example, for different diagnostic groups within various stages, alongside duration and sustainability of coaching. Identifying barriers at the levels of patient, provider, and health system is essential.

Clinical Implications And Conclusion

While long-term follow-up would be necessary to demonstrate potential survival benefits, based on the literature it stands to reason that by making improvements in the behaviors studied here, cancer survivors could decrease their risk of developing another cancer, chronic condition, or worsening existing comorbidities, which in turn could reduce the risk of cancer-related death, improve QoL, and increase productivity. Furthermore, leveraging specific time points for regular and ongoing coaching assessments and modification of goals may provide surveillance through the trajectory of cancer survivorship. With less hands-on time needed and more flexibility available to tailor the program to the cancer survivor's needs, HWC could be a viable way to creating lasting behavior change in this population.

Declarations

Funding: This study was funded by the Longwood Foundation.

Conflicts of Interest: The authors declare that they have no conflicts of interest.

Availability of Data and Material: The authors have full control of all primary data and agree to allow the journal to review their data if requested.

Code Availability: Not applicable

Author's Contributions: *Conceptualization:* Berzins, Pickles, Hebbel, Mackenzie, Galantino; *Methodology:* Berzins, Pickles, Hebbel, Mackenzie, Leonard, Galantino; *Health coaching implementation:* Leonard, Beneck. *Project Administration:* Berzins. *Formal analysis and investigation:* Berzins, Mackenzie, Galantino; *Writing - original draft preparation:* Berzins, Mackenzie, Galantino; *Writing - review and editing:* Berzins, Mackenzie, Galantino, Pickles, Hebbel, Leonard, Beneck; *Funding acquisition:* Pickles,

Mackenzie, Peterson; *Resources*: Peterson; *Supervision*: Mackenzie, Leonard, Galantino. All authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Consent to Participate: Informed consent was obtained from all individual participants included in the study.

Consent for Publication: Not applicable

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Tables

Table 1: Baseline Demographics

Variable Name	Screened	Enrolled
Gender		
<i>Male</i>	12	11
<i>Female</i>	46	37
Participant Age		
<i>Under 35</i>	3	3
<i>35-44</i>	1	0
<i>45-54</i>	15	13
<i>55-64</i>	22	18
<i>65+</i>	17	14
Race		
<i>American Indian or Alaskan Native</i>	0	0
<i>Asian</i>	0	0
<i>Native Hawaiian or Other Pacific Islander</i>	2	2
<i>Black or African American</i>	4	3
<i>White</i>	40	39
<i>More than one race</i>	2	1
<i>Unknown or Not Reported</i>	1	1
<i>(Did not answer)</i>	2	2
Ethnicity		
<i>Hispanic</i>	1	1
<i>Non-Hispanic</i>	45	42
<i>(Did not answer)</i>	5	5
Annual Household Income		
<i>\$0 – \$14,999</i>	1	1
<i>\$15,000 – 29,999</i>	3	2
<i>\$30,000 – 44,999</i>	9	8

<i>\$45,000 – 59,999</i>	6	5
<i>\$60,000 – 74,999</i>	1	1
<i>\$75,000 – 89,999</i>	3	3
<i>\$90,000 – and above</i>	13	13
<i>I chose not to answer</i>	14	14
<i>(Did not answer)</i>	1	4
Marital Status		
<i>Married</i>	30	30
<i>Partnered/Significant Other</i>	3	3
<i>Single</i>	5	4
<i>Divorced/Separated</i>	6	4
<i>Widowed</i>	3	3
<i>(Did not answer)</i>	4	4
Educational Attainment		
<i>Less than 9th grade</i>	0	0
<i>9th grade (Jr. High)</i>	0	0
<i>Partial High School</i>	0	0
<i>High School Graduate</i>	5	4
<i>1-3 years of College or 2 yr College/Vocational/ Technical school graduate</i>	6	6
<i>College/University Graduate</i>	23	22
<i>Masters Degree</i>	12	11
<i>PhD or Equivalent</i>	4	4
<i>(Did not answer)</i>	1	1

Table 2: Cancer Diagnoses

Types of Cancer	Screened	Enrolled
Breast	27	20
Non-Hodgkin's Lymphoma	4	4
Ovarian	4	3
Lung	4	3
Thyroid	4	2
Melanoma	3	2
Endometrial	2	2
Multiple Myeloma	2	2
Prostate	2	2
Leukemia	2	2
Hodgkin's Lymphoma	2	1
Appendix	1	1
Colon	1	1
Sinus paraforma C12 (vocal cord)	1	1
Throat	1	1
Gastrointestinal Stroma Tumor (GIST)	1	1
Rectal mass	1	1
Testicular	1	1
Kidney	1	1
Follicular Lymphoma	1	0
Synovial Cell Sarcoma	1	0
Participants with multiple cancers (counted in above)	8	5

Table 3: Session Attendance

# of Sessions	6 sessions	5 sessions	4 sessions	3 sessions	2 sessions	1 session
Attendance	37	2	2	2	1	4
Average number of sessions attended:	5.13/6 WCCS coaching sessions = 85.4%					

Table 4: Results

Measures	Baseline	Follow-up	<i>p</i> -value	Cohen's <i>D</i>	Confidence Intervals	
	(Mean)	(Mean)			Lower	Upper
<i>IPAQ</i>						
Weekly PA MET-Minute Score	1619.023 (215.218)	1930.726 (249.149)	0.247	0.21	-849.359	225.954
Weekly MVPA MET-Minute Score	987.796 (188.465)	1363.709 (217.515)	0.142	0.29	-883.162	131.336
Weekly PA Frequency	6.541 (.572)	8.589 (.677)	0.004	0.51	-3.415	-0.682
Weekly MVPA Frequency	2.62 (.367)	3.724 (.435)	0.016	0.43	-1.988	-0.220
Total PA Minutes per Week	387.498 (56.828)	489.021 (68.082)	0.177	0.26	-215.081	48.036
Total MVPA Minutes per Week	176.324 (30.231)	222.490 (35.423)	0.233	0.22	-123.301	30.970
Weekly Sedentary Minutes	547.270 (51.076)	451.597 (62.395)	0.133	0.27	-30.886	222.232
<i>REAP</i>	29.92 (.637)	31.715 (.738)	0.009	0.4	-3.104	-0.487
<i>PSQI</i>						
Sleep Quality	1.42 (.109)	1.065 (.131)	0.006	0.46	0.107	0.604
Sleep Latency	2.689 (.282)	2.280 (.324)	0.143	0.21	-0.146	0.965
Sleep Duration	.680 (.108)	.414 (.133)	0.051	0.35	-0.001	0.532
Sleep Efficiency	.820 (.145)	.540 (.165)	0.035	0.27	0.021	0.539
Sleep Disturbance	1.64 (.077)	1.484 (.095)	0.124	0.29	-0.045	0.356
Use of Sleep Medication	1.180 (.187)	1.391 (.228)	0.358	0.16	-0.671	0.249
Daytime Dysfunction	1.224 (.115)	1.004 (.132)	0.056	0.27	-0.006	0.447
Total	9.5 (.631)	8.045 (.716)	0.014	0.33	0.320	2.589
<i>PSS</i>	17.68 (.907)	14.30 (1.039)	0.001	0.53	1.562	5.203
<i>HADS</i>						
Anxiety	8.04 (.597)	5.621 (.701)	<0.001	0.57	1.159	3.679
Depression	6.14 (.620)	4.61 (.707)	0.01	0.35	0.389	2.666
<i>FACT-G</i>						
Physical Well-being	19.92 (.657)	22.04 (.732)	<0.001	0.46	-3.227	-1.010

Social/Family Well-being	18.14 (.770)	19.10 (.881)	0.194	0.18	-2.427	0.512
Emotional Well-being	14.97 (.692)	17.61 (.807)	0.002	0.56	-4.213	-1.067
Functional Well-being	16.32 (.843)	18.48 (.973)	0.011	0.36	-3.805	-0.523
Total Well-Being	67.76 (2.52)	74.63 (2.783)	0.002	0.39	-10.908	-2.835

Figures

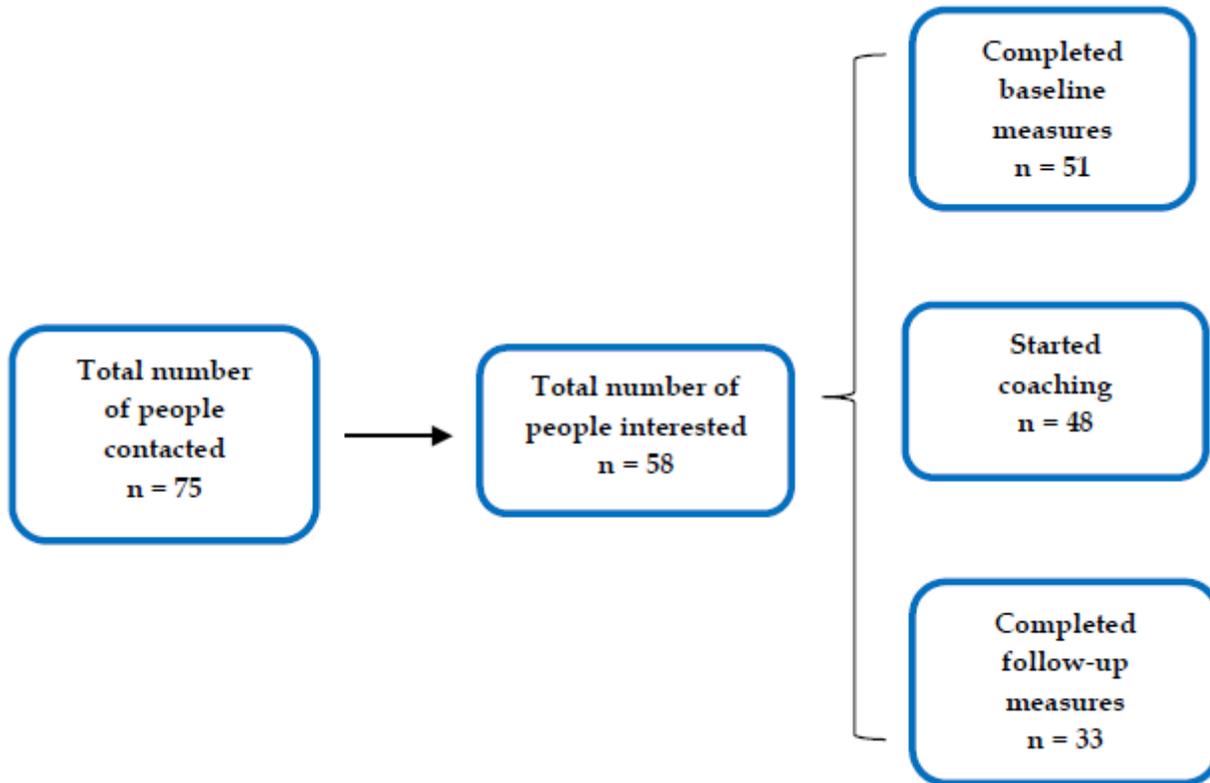


Figure 1

Number of participants contacted, screened, and coached.