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Attitudes and preferences about the Stepped-Care Model of depression treatment in oncology: a pilot study

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ATTITUDES AND PREFERENCES ABOUT THE STEPPED-CARE MODEL OF DEPRESSION TREATMENT IN ONCOLOGY: A PILOT STUDY

by
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Dedication

I would like to dedicate this manuscript to my mother, Holly D'Onofrio, my sisters, Michela D'Onofrio and Isabella D'Onofrio, and my stepfather, Cliff Rachman.

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I would like to express my appreciation to Dr. Jim A. Haugh for his continued guidance and support throughout this research. The skills and knowledge that I have learned will aid me throughout my future education and I look forward to more academic endeavors, knowing that, thanks to you, I am prepared to take them on. Additionally, I would like to thank Dr. Georita Frierson for being an active member of my thesis committee, and Dr. Cori McMahon for being a valuable collaborator at Cooper Hospital. I would also like to express my gratitude to Krista Herbert and the rest of the members of the research team that I am a part of for helping me to complete this process. Finally, I would like to mention that this would not have been possible without the unwavering support of my family and friends.

Abstract

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The current pilot study examines the feasibility of conducting a full-scale study that utilizes a survey-based cross-sectional methodological design. The purpose was to systematically explore the attitudes about the Stepped-Care (SC) Model of depression treatment, specific treatment preferences for depression, and client characteristics of a sample of women diagnosed with breast cancer. A total of 26 women were recruited from a breast cancer clinic located in the Northeastern United States. Preliminary results indicated that participants on average rated treatments within the SC Model as acceptable, tended to prefer step three (e.g. psychotherapy, medication, or a combined approach) or step two (e.g. self-help, or psychoeducation) of the SC Model, and tended to express strong to very strong preferences. Additionally, correlational analysis indicated moderate to strong significant relationships between the severity of depressive symptoms, quantified resilience, and emotional and cognitive perceptions of the illness. The current pilot study's preliminary results are to be interpreted with caution and guide future directions in conducting a full-scale study with a larger and more representative sample.

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Chapter 1

Introduction

In 2017, an estimated 252,710 women will be diagnosed with breast cancer (The American Cancer Society Medical and Editorial Content Team, 2017). Receiving a diagnosis, undergoing treatment, including breast-conserving surgery, mastectomy, chemotherapy, or radiation, and the uncertainty of treatment outcome place stress on the patient. It is expected that women with breast cancer experience distress during these times; however, a subsection of this population experience clinically significant depression, which might warrant and benefit from further psychological or behavioral treatment (Fann et al., 2008). Meta-analyses have estimated that 5-45% of women diagnosed with breast cancer experience a co-occurrence of clinical depression, with most studies indicating prevalence between 20-25% (Fann et al., 2008; Hegel et al., Pasquini & Biondi, 2006; Burgess et al., 2005).

As a result to reported prevalence variability, researchers have spent time identifying when women with breast cancer are most susceptible to experiencing clinical depression. For example, studies have indicated that rates of depression are highest in younger women, within the first year following diagnosis, when patients are undergoing adjunctive treatment including chemotherapy and/or surgery, and when women experience a recurrence of their cancer diagnosis (Fann et al., 2008; Hegel et al., Pasquini & Biondi, 2006; Burgess et al., 2005). In addition, Passik et al. (1998) compared oncologists' recognition of depression and patients' self-reports of depressive symptoms. Results indicated that oncologists have a tendency to underestimate the severity of depressive symptomatology, with oncologists accurately recognizing only 13% of

patients reporting moderate to severe depressive symptoms (Passik et al., 1998). Thus, rates of women diagnosed with breast cancer who experience clinical depression are likely underrepresented.

Statement of the Problem

Despite variability with regards to prevalence of depressive symptoms, the negative consequences that cancer patients experience with a co-occurrence of depression are evident. Such negative consequences center on the progression and prognosis of the patient's cancer. For example, the Biobehavioral Model of Cancer Stress and Disease Course describes the interplay that may occur between the psychological, behavioral, and biologic pathways from the stress of a cancer diagnosis (Andersen, Kiecolt-Glaser, & Glaser, 1994). More specifically, depression further inhibits the function of the hypothalamic-pituitary-adrenal (HPA) axis. Thus, the patient's immune system is adversely impacted by both the diagnosis of cancer and depressive symptoms, which combined result in elevated mortality rates (Spiegel & Giese-Davis, 2003). Additionally, an oncology patient experiencing depressive symptoms is less likely to adhere to medical treatment, attend cancer-prescreening procedures, and follow doctor recommendations for a healthy living style, such as not smoking, maintaining proper nutrition, and exercising regularly (Pinquart & Duberstein, 2010). Furthermore, quality of life is not only negatively affected by the diagnosis of cancer but by the symptoms present in depression, such as negative affectivity, anhedonia, fatigue, and lack of motivation (Spiegel & Giese-Davis, 2003).

Moreover, Fann et al., (2008) conducted a meta-analysis to examine the impact of depression on breast cancer patients. Results indicated that depressive symptoms lead to a

number of additional negative consequences that are specific to women diagnosed with breast cancer. First, depression may amplify and act as a secondary cause to somatic pain making medical treatment more difficult. Second, depressive symptoms can further contribute to both cognitive and sexual dysfunctions that might develop as a result of the cancer diagnosis. Finally, depression might impact and exacerbate menopausal symptoms through the potential contraindication of estrogen replacement. Taken together, these consequences tend to overwhelm the overall coping abilities of the individual (Fann et al., 2008).

Considering the variety of complications women with both breast cancer and depression face, it is important to assess and effectively treat depressive symptoms within this population. Current traditional procedures and modalities of psychological treatments do exist, including psychotherapy and antidepressant medications (Grassi et al., 2014; Van Schaik et al., 2004; Lawrenson, Tryer, Newson, & Farmer, 2000). However, while psychotherapy and antidepressants have been indicated to be effective in reducing depressive symptoms, there are a number of barriers when considering these treatments. For example, psychotherapeutic interventions are rarely accessible within hospitals and oncology centers. Therefore, once patients are identified as depressed, they typically must undergo a referral process to an external mental health agency, which may also take time, include high cost, and may be inconvenient with regards to further transportation (Grassi et al., 2014). Antidepressants, on the other hand, are more accessible within hospitals and oncology centers; however, medications come with a number of adverse side effects, potential drug-to-drug interactions, and simply might not be acceptable to the patient

resulting in lower or inconsistent adherence (Lawrenson, Tryer, Newson, & Farmer, 2000).

Significance of the Current Study

As a result to these treatment barriers, studies have been conducted to examine other potential factors that may improve treatment dissemination for depression in oncology. In addition to being a key component in the Evidence-Based Behavioral Practice (EBBP) Model, previous literature strongly indicates that incorporating the client's characteristics throughout treatment leads to a number of beneficial results (APA Task Force, 2006). For example, previous research has indicated that attending to the client's treatment preferences increase adherence (Kwan, Dimidjian, & Rizvi, 2010), lead to better therapeutic relationships (Iacoviello et al., 2007), lower rates of attrition, increase motivation in treatment (Swift & Greenberg, 2015), and improve overall clinical outcomes (Lin et al., 2005; Swift & Callahan, 2009; Lindhiem, Bennett, Trentacosta, and McLear, 2014). Furthermore, rates of treatment satisfaction have been supported to increase when clinicians make an effort to collaborate with patients when formulating treatment (Lindhiem, Bennett, Trentacosta, & McLear, 2014).

In addition to attending to treatment preferences, other client characteristics have been examined in acutely and chronically ill individuals. Such characteristics have included quantified individual resilience and the individual's emotional and cognitive perceptions of the illness. More specifically, previous literature has associated these constructs with depressive severity and psychological functioning following a diagnosis. For example, in a study conducted on patients diagnosed with prostate cancer, level of resilience was significantly and negatively associated with the severity of depressive

symptoms (Sharpley, Bitiska, Wootten, & Christie, 2014). Furthermore, resilience is also utilized as a marker for progress in treatment and has been indicated to be significantly and positively associated with successful treatment outcomes (Min et al., 2012). With regards to the individual's emotional and cognitive perceptions of their illness, meta-analytic review has indicated that individuals who endorse perceptions that their illness is more chronic, uncontrolled, and symptomatic are more likely to experience psychological distress. On the other hand, individuals who endorse perceptions that their illness is more curable and controlled are more likely to be psychologically and socially adaptable (Hagger & Orbell, 2003).

Given the clinical implications of attending to client characteristics, models of care have been developed that recommend assessing for these different factors prior to formulating a treatment plan. One model that considers client characteristics as a major component of treatment formulation is the Stepped-Care (SC) Model (Broten, Naugle, Kalata, & Gaynor, 2011). The SC Model recommends different treatments for depression depending upon treatment preferences, collaboration with the client, and severity of presenting symptoms (Li et al., 2008). Steps and treatment options within this model range from low-intensity interventions to high-intensity interventions. More specifically, the first step of the SC Model of treatment recommends watchful waiting, attributing improvement of depressive symptoms only to time. The second step of this model recommends the use of psychoeducation, bibliotherapy (e.g. self-help), or computer-based programs aimed at treating depression (e.g. self-help via the Internet based on cognitive or behavioral principles). The third step of this model recommends attending support groups, individual psychotherapy, or taking antidepressant medications. Finally,

the fourth and most intensive step of this model recommends intensive outpatient/partial day, or inpatient care (Broten, Naugle, Kalata, & Gaynor, 2011).

Since the development of the SC Model, psychological researchers have examined the efficacy of implementing this model within oncology and primary care settings. For example, an expert panel in an oncology center in Ontario created a quality initiative for evidence-based care for the management of depression in patients with cancer. This initiative strongly incorporated the use of the SC Model in guidelines to treating depressive symptoms in patients (Li et al., 2015). Additionally, the SC Model has been empirically supported in the Netherlands, Canada, and the United Kingdom (van Straten, Hill, Richards, & Cuijpers, 2015; Li et al., 2015; Firth, Barkham, & Kellett, 2015; van't Veer-Tazelaar et al., 2010). Results have indicated of a number of positive implications for the use of SC Model compared to treatment as usual or standard care practices. First, meta-analytic review indicates small to moderate effect sizes in favor of the SC Model when compared to treatment as usual (d = .20-.45; Firth & Barkham, & Kellett, 2015). Second, cost effectiveness of the SC Model was consistently seen as an augmented benefit across meta-analyses. Finally, attending to the treatment preferences of the patient and engaging in collaborative treatment formulation moderated the overall efficacy of the psychological intervention (van Straten, Hill, Richards, & Cuijpers, 2015; Firth, Barkham, & Kellett, 2015; van't Veer-Tazelaar et al., 2010).

Despite the support for the use of the SC Model internationally, limitations exist within this literature base. First, no study has yet to be conducted that has examined the efficacy of the SC Model within the United States, starting with how individuals might view this model of care. The importance of disseminating empirically supported and cost

effective treatments in oncology settings, emphasizes the rationale for exploring how patients might view the SC Model of treatment in comparison to standard care practices. The SC Model suggests that there are less-intensive treatment options available, such as psychoeducation and self-help. Such low-intensity interventions that are cost-effective have also been supported to be effective as stand-alone treatments for reducing depressive symptoms (Broten, Naugle, Kalata, & Gaynor, 2011). For example, psychoeducation alone is supported to be effective in reducing subclinical and mildly clinical levels of depressive symptomatology (Cuijpers, 1998). In addition, guided self-help has been supported to be comparable to face-to-face individual psychotherapy in treating depression (Cuijpers, Donker, van Straten, & Andersson, 2010).

A second limitation is that there has been little research conducted on what psychological treatments oncology patients might prefer if seeking mental health services for depressive symptoms. With regards to women with breast cancer, only two studies have explored treatment preferences for depression (Wu, Brothers, Ferrar, & Anderson, 2015; Reece et al., 2013). While these results indicate that participants tended to prefer individual psychotherapy, studies lacked in exploring possible preferences for treatments other than traditional interventions, including self-help and psychoeducation, and one of the above study did not assess for depressive symptoms (Wu, Brothers, Ferrar, & Anderson, 2015). Given what is known about the impact of depression on cancer and the benefits of attending to treatment preferences, preferences should be further explored within oncology populations. A patient diagnosed with cancer who is also experiencing depressive symptoms is often coping with multiple obligations, including frequent doctor

visits, pain, fatigue, and medical expenses. Thus, these patients might prefer a lower intensity treatment option.

A final limitation is that no study has explored the possible relationships between the severity of depressive symptoms, quantified resilience, and individual perception of the illness in a sample of women with breast cancer. These characteristics warrant further exploration for a number of reasons. Given the associations between illness perception and psychological functioning, and the impact of resilience on treatment process and outcome, it might prove beneficial to measure these constructs prior to treating women with breast cancer for depressive symptoms.

Purpose of the Current Study

The aforementioned limitations warrant for further examination of psychological treatment for depression in oncology. Given the limited existing previous research, a pilot study was conducted to assess the feasibility of conducting a full scale study with a more representative sample size. Thus, a cross-sectional study design was formulated that consisted of five exploratory goals. The first goal was to assess the acceptability of the SC Model through providing participants with a description of the model as well as what each step of the model recommends. The second goal was to assess what step and what treatment within that step participants would prefer if seeking mental health services for depressive symptoms. Being that acceptability (i.e. the ability to be tolerated) and preference (i.e. a greater liking over other alternatives or options) are separate terms, indicating what one perceives to be most acceptable does not automatically indicate a corresponding preference. Therefore, for the purpose of the current pilot study,

participants will be assessed for how acceptable they perceive the SC Model to be and what treatment is preferred the most.

Previous literature has indicated that the benefits that might result from attending to treatment preferences are moderated by how strongly the individual prefers that treatment (Swift & Greenberg, 2015). As a result, the third goal of the current pilot study was to assess the strength of participants' preferences for the step of the SC Model and treatment within that step. The fourth goal was to assess for depressive symptoms and to explore differences between the severity of symptoms and the treatments participants prefer. The guidelines and the structure of the SC Model state that the severity of presenting depressive symptoms should be highly considered when deciding which step is optimal for a given patient. For example, a step one (e.g. watchful waiting) approach would not be suitable for an individual endorsing a more severe level of depression compared to an individual endorsing a subclinical or minor level of depression. Thus, the current study seeks to examine whether participants tend to prefer treatments in which the intensity corresponds to severity of depressive symptoms. The fifth and final goal was to explore the constructs of resilience and illness perception in relation to depressive symptom severity and treatment preferences.

Chapter 2

Method

Participants

A total of 26 participants of the current study were recruited through a breast cancer clinic within an oncology center located in the Northeastern United States. Potential participants were identified with the help of schedulers employed in the breast cancer clinic and researchers approached patients within the consultation room prior to or following doctor appointments with the oncologist. The incentive for participation included being given the choice to enter into a raffle for $100 that would be conducted following all participant recruitment. In order to be eligible for the current study, participants were required to identify as female, have a diagnosis of breast cancer, be at least 18-years-old, and be able to read and understand a 6th grade reading level. Participants' ages ranged from 32 to 65 (M=49.91). Participants in the sample predominantly identified as Caucasian (84%), followed by African American (8%), and other (8%). Seventy-seven percent of participants identified as Non-Hispanic/Latino.

Measures

Center for Epidemiologic Studies for Depression, Short Form (CES-D-10; Radloff, 1977). The CES-D-10 is a 10-item self-report measure that assesses for the presence of depressive symptoms. Questions are asked on a 4-point Likert scale, ranging from (0) less than 1 day – *Rarely or none of the time*, to (3) 5-7 days – *All of the time*. Total scores on the CES-D-10 range from 0-30 and a total score of at least 10 indicates the presence of depressive symptoms. The CES-D-10 has been indicated to have good internal consistency and test-retest reliability (Cronbach's $\alpha = 0.86$ and $r = 0.85$,

respectively; Miller, Anton, & Townson, 2008). The CES-D-10 has also been indicated to have high convergent and divergent validity (.91 and .89, respectively; Miller, Anton, & Townson, 2008).

The Connor-Davidson Resilience Scale, 10-item (CD-RISC 10; Connor, & Davidson, 2003). The CD-RISC 10 is a 10-item self-report scale that quantifies an individual's resilience level in order to assess potential for modifiability. Questions are asked on a 5-point Likert scale, ranging from (0) *Not True At All*, to (4) *True Nearly All the Time*. The CD-RISC is utilized for a number of purposes including assessing the degree of resilience an individual has, measuring resilience as a predictor variable to treatment outcome, and as a marker for change throughout treatment and in changing biological modifications. Total scores range from 0-40, with higher total scores reflecting a greater level of resilience. Total scores are typically compared to the means of the specific population being studied. A recent study indicated that the mean total score for the CD-RISC 10 in a sample of breast cancer patients was 27.6 (SD=5.9; Markovitz, Schrooten, Arntz, & Peters, 2015). The CD-RISC 10 has been indicated to have good internal consistency and test-retest reliability (Cronbach's $\alpha = 0.89$ and $r = 0.88$, respectively; Notario-Pacheco et al., 2014).

Brief Illness Perception Questionnaire (Brief IPQ; Broadbent, Petrie, Main, & Weinman, 2006). The Brief IPQ is a 9-item self-report scale that assesses the individual's cognitive and emotional perceptions their illness. The Brief IPQ includes eight items that are asked on a 10-point Likert scale, with ranges specific to the question. An example of a question and corresponding scale is "How much does your illness affect your life?" with a 10-point Likert scale ranging from (0) *No Affect at All*, to (10) *Severely*

Affects My Life. The ninth item on the Brief IPQ provides qualitative data and is an open-ended question that asks the individual to rank-order the three most important factors that are believed to have caused his or her illness. For purpose of the current pilot study, this item was excluded as a means to lessen psychological risk to the participant. Total scores of the Brief IPQ range from 0-80 and indicate the degree to how threatening the illness is perceived, with higher scores indicating a more threatening view of the illness. The Brief IPQ individual items have been indicated to have good test-retest reliability at three and six weeks (r = .48-.70 and r = .42-.75, respectively; Broadbent, Petrie, Main, & Weinman, 2006) and high internal consistency (Cronbach's $\alpha = 0.85$; Karatas, Ozen, & Kutluturkan, 2017).

Treatment Preference Inventory (TPI). The TPI was created by the researchers for the purpose of the current study. The TPI is at least 11 items and at most 27 items depending on individual answers and skip logic present throughout the inventory. The inventory is a self-report questionnaire that assesses for the acceptability of the SC Model and preferences for specific treatments within the SC Model. Items on the TPI utilize dichotomous and 5-point Likert scales with ranges specific to the question being asked. An example of a question assessing for acceptability of a specific treatment is, "Do you find watchful waiting to be an acceptable form of treatment?" with a 5-point Likert scale ranging from (1) *Not Acceptable*, to (5) *Very Acceptable*. The inventory provides a description of the SC model and descriptions of each step and treatment of the model, including active and inactive interventions. The inventory begins with step one, including watchful waiting, and proceeds with step two, including psychoeducation or self-help, step three, including psychotherapy, medication, or a combined psychotherapy and

medication approach, and finally step four, including an intensive outpatient/partial day program or inpatient program. Descriptions consist of what one could expect if receiving each of the aforementioned interventions (e.g. time, contact with a mental health professional, and rationale for specific treatment). Reading level for the inventory was assessed using the Simple Measure of Gobbledygook index, with results indicating an 8.4 reading level (Doak, Doak, & Root, 1996; McLaughlin, 1969). See Appendix for the full Treatment Preference Inventory.

"Imagine-Self" Vignette. The current study sampled patients who may or may not have been experiencing or seeking help for depressive symptoms. Thus, participants were also given an "Imagine-Self" Vignette. It has been indicated that when participants are asked to imagine a specific perspective that is different from their own, the individual will experience self-thoughts comparative to that target perspective (Davis et al., 2004).

Demographic, Medical, and Psychological History Questionnaire. Demographics included gender, age, ethnicity, and race. Medical information asked included type of cancer diagnosis, stage of cancer diagnosis, and how recently participant was diagnosed with cancer. Psychological history included past experience with seeking help for mental health symptoms, what treatment may have been received (e.g. talking treatment, drug treatment, both, or other), past experience with depressive symptoms, and how recent this experience with depressive symptoms was.

Procedure

Preceding data collection, measures were entered into the online survey-based website of Qualtrics. If the patient agreed to participate, the researchers verbally explained the consent form that outlined the individual's rights, the purpose of the study,

study incentive, potential risks and benefits of the study, and expectations of the participant. If the individual agreed to consent, signature was obtained and the individual was given an identification number. The participant was then given the option to either complete the measures within the consultation room or at a later time of the individual's leisure. Participants that wished to complete the questionnaires at a later time were given their identification number and the link to the measures on Qualtrics. Participants that wished to complete measures within the consultation room were provided a tablet/iPad with Qualtrics and asked to complete the study at that time.

Participants first entered their identification number. Second, participants entered information on demographics, medical diagnosis, and psychological history. Third, participants completed the CES-D-10, the Brief IPQ, the CD-RISC 10, and the TPI. Last, participants were debriefed. Full participation lasted approximately 20 minutes. All participant information remained protected through the Health Insurance Portability and Accountability Act (HIPAA) for Protected Health Information (PHI) and questionnaire answers were kept confidential. Procedures of this study were approved by the hospital's ethical Institutional Review Board (eIRB).

Statistical Analyses

Results within this study utilized descriptive and inferential data, including frequencies, correlations, and nonparametric statistical analyses. Frequencies were utilized to examine overall acceptability ratings, preferences for the treatments within the SC model, strength of preferences, and differences between depressive symptom severity and final choice of treatment. A nonparametric chi-square goodness of fit analysis was utilized to examine significant differences in observed and expected frequencies of what

step participants indicated they would most prefer if seeking help for depressive symptoms. Last, correlational analyses were utilized to examine possible relationships between depressive symptom severity, resilience level, and illness perception.

Chapter 3

Results

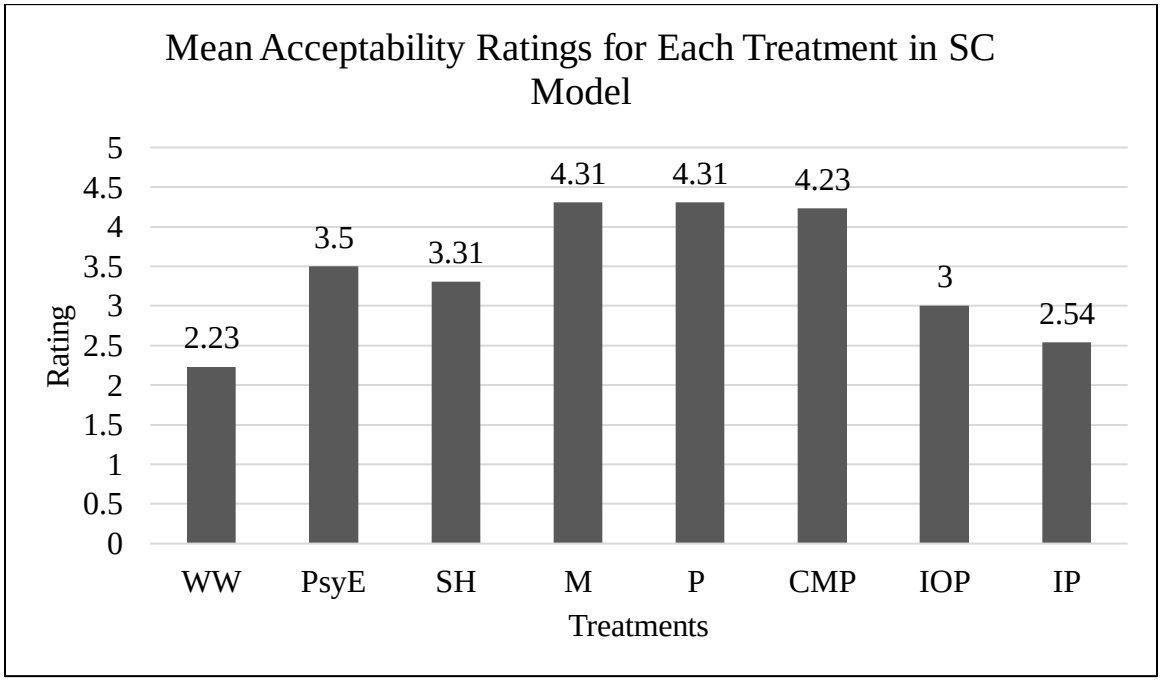
Medical Information and Psychological History

Participants in the sample were predominantly diagnosed with either Stage 2 (n=8; 31%) or Stage 4 (n=8; 31%) breast cancer, followed by Stage 1 (n=5; 19%), Precancerous (n=3; 11%), and Stage 3 (n=1; 4%). One participant was uncertain of what Stage their diagnosis was (4%). Half of participants indicated that they have had their diagnosis for more than one year (n=13). Sixty-two percent of participants indicated that they are currently or have in the past received mental health services (n=16), with most indicating services to be a combined medication and psychotherapeutic approach (n=13; 50%), followed by psychotherapy (n=4; 25%), medication (n=3; 19%), and other (n=1; 6%). Seventy-seven percent of participants indicated that they have experienced depressive symptoms (n=20), with most indicating that the experience has been within the past 3 months (n=9; 45%).

Acceptability of SC Model

SC Model and treatment acceptability was assessed through normative data, specifically mean ratings, utilizing 5-point Likert scales ranging from (1) *Not Acceptable* to (5) *Very Acceptable*. Results indicated that step three (e.g. psychotherapy, medication, or a combination) of the SC Model was rated to be on average the most acceptable step, with psychotherapy and medication rated as equally acceptable (M=4.31, SD=1.09 and M=4.31, SD=1.16; respectively), followed by a combined psychotherapeutic and medication approach (M=4.23, SD=1.07). Step two (e.g. self-help, or psychoeducation) of the SC Model was rated to be on average the second most acceptable step, with

psychoeducation rated as slightly more acceptable than self-help (*M*=3.50, SD=1.45 and *M*=3.31, SD=1.32; respectively). Step four (e.g. intensive outpatient, or inpatient) of the SC Model was rated to be on average the third most acceptable step, with intensive outpatient programs rated as slightly more acceptable than inpatient programs (*M*=3.00, SD=1.60 and *M*=2.54, SD=1.68; respectively). Finally, step one (e.g. watchful waiting) of the SC Model was rated to be on average the fourth most acceptable step (*M*=2.23; SD=1.21). See Figure 1 for full depiction of participants' mean acceptability ratings for each treatment within the SC Model.



Firgure 1. Mean Acceptability Ratings for Each Treatment in SC Model.
WW = Watchful Waiting, PsyE = Psychoeducation, SH = Self-Help, M = Medication, P = Psychotherapy, CMP = Combined Medication/Psychotherapy, IOP = Intensive Outpatient, and IP = Inpatient.

Treatment Preferences

Descriptive statistics indicated that when asked what step participants would prefer to start with if they were to seek help for depressive symptoms, step three was chosen most frequently (n=14, 53.8%), followed by step two (n=8; 30.8%), and step one (n=4; 15.4%). No participant indicated a preference for step four. Chi-square goodness of fit analysis indicated at least one step of the SC Model was chosen significantly different than what would be expected on a normal distribution (χ^2 (3, 26) = 16.46, $p < .001$). See Table 1 for full depiction of chi-square goodness-of-fit analysis of observed and expected frequencies for participants' preferred step of the SC Model. Additionally, participants tended to express strong (n=10; 38.5%) to very strong (n=10; 38.5%) preferences for the step they indicated to prefer (*M*=4.12, SD=.86).

Table 1.

Frequencies for Step of SC Model Participants Preferred

	Step One	Step Two	Step Three	Step Four
Observed Freq.	4	8	14	0
Expected Freq. (prop.)	6.5 (.25)	6.5 (.25)	6.5 (.25)	6.5 (.25)

Note. χ^2 = 16.46**, df = 3. Numbers in parentheses, (), are expected proportions. Freq. = frequencies and prop. = proportion.
** $p < .01$.

With regards to examining treatment preferences further, within step three, descriptive statistics indicated that a combined psychotherapeutic and medication approach was chosen most frequently (n=8; 57.1%), followed by medication alone (n=4; 28.6%), and psychotherapy alone (n=2; 14.3%). When asked what type of psychotherapy would be preferred, most participants indicated a preference for cognitive therapy (n=5;

50%), followed by mindfulness (n=2; 20%), and behavioral activation (n=2; 20%), and finally interpersonal therapy (n=1; 10%). Participants predominantly indicated a preference for individual (n=8; 80%) versus group (n=2; 20%) psychotherapy. Within step two, descriptive statistics indicated that self-help was chosen equally as frequently as psychoeducation (n=4; 50%). When asked what type of self-help intervention would be preferred, more participants indicated a preference for mobile applications (n=2; 50%), followed equally by books and internet-based programs (n=1; 25%). Additionally, participants predominantly indicated a preference for guided (n=3; 75%) versus unguided (n=1; 25%) self-help.

Depressive Symptoms, Resilience, and Illness Perception

Results indicated differences across mean total scores for the CES-D-10 and the step of the SC Model that participants indicated to prefer if they were to seek help for depressive symptoms. As participants preferred a more intensive step of the SC Model, participants also endorsed a higher level of depressive symptoms on the CES-D-10. More specifically, among participants that indicated a preference to start with step one, the total mean score for the CES-D-10 was indicated to be the lowest (M=11.25; SD=4.19), while the total score for the CES-D-10 steadily increased among participants that indicated a preference to start with step two (M=12, SD=9.02) and step three (M=15.71, SD=6.79). See Figure 2 for graph depiction of differences across the mean total CES-D-10 scores by preferred step for step one, step two, and step three.

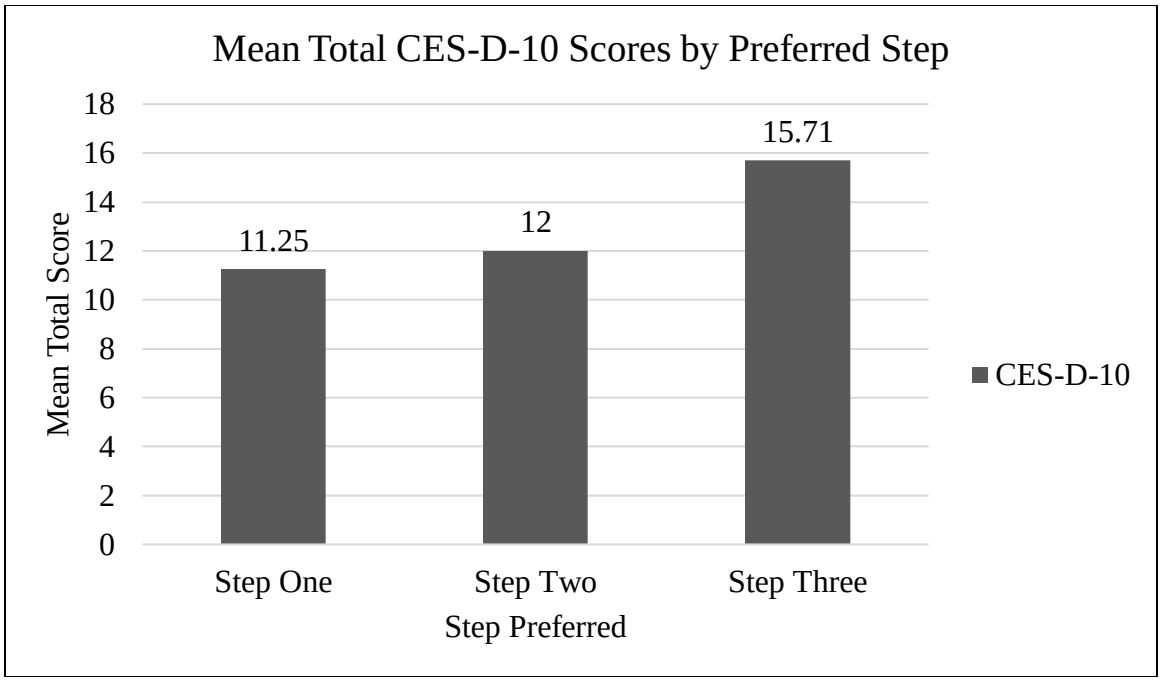


Figure 2. Mean Total CES-D-10 Scores by Preferred Step.

Correlational analyses indicated significant relationships between resilience, illness perception, and depressive severity. With regards to the quantified level of resilience of participants, total scores on the CD-RISC 10 were indicated to be strongly significant and negatively correlated with both total scores on the CES-D-10 ($r(25) = -.542$, $p < .01$) and the Brief IPQ ($r(25) = -.519$, $p < .01$). With regards to the cognitive and emotional perceptions of the individual's illness, total scores on the Brief IPQ were indicated to be moderately significant and positively correlated with total scores on the CES-D-10 ($r(25) = .395$, $p < .05$). See Table 2 for full depiction of correlational analysis for depressive symptoms, resilience, and illness perception.

Table 2.

Correlations for Depressive Symptoms, Resilience, and Illness Perception

	CES-D-10	CD-RISC 10	Brief IPQ
CES-D-10	--		
CD-RISC 10	-.542**	--	
Brief IPQ	.395*	-.519**	--

Note. CES-D-10 = Center for Epidemiologic Studies for Depression Scale, Short Form, CD-RISC 10 = Connor-Davidson Resilience Scale, 10-item, and Brief IPQ = Brief Illness Perception Questionnaire.
*$p < .05$.
**$p < .01$.

Chapter 4

Discussion

The purpose of the current pilot study was to assess the feasibility of the current study design in conducting future data collection. Considering the procedure, time of participation, and measures utilized within the current pilot study, the overall design was supported to be feasible. In addition, the current pilot study led to a number of preliminary results that will contribute to and guide future directions. The current pilot study sought to systematically explore how women with breast cancer view the SC Model for treating depressive symptoms and what treatments would be most preferred for treating depression. Preliminary results indicated that participants on average rated the steps and treatments within the SC Model to be moderately to strongly acceptable. With acceptability ratings ranging from 2.23-4.31 on a 5-point Likert scale, step three was on average rated as the most acceptable step, followed by step two, step four, and step one as least acceptable. Taken together, results suggest that the SC Model might be accepted in an oncology setting.

With regards to what step participants indicated to prefer, chi-square goodness-of-fit analysis indicated significant differences from what would be expected on a normal distribution. Step three was indicated to be preferred most frequently, followed by step two, and last, step one. No participant indicated a preference for step four. Additionally, participants also tended to express strong to very strong preferences for what they indicated to prefer. Bearing in mind these preliminary results, there are a variety of cost-effective self-help materials that have been developed by psychological researchers. While not all self-help materials that have been created are empirically supported, there

does exist empirical evidence for specific books, mobile applications, and Internet-based programs. Given that some participants did indicate strong preferences for non-traditional treatments, including psychoeducation and self-help, preliminary results further suggest the importance of exploring the SC Model in oncology.

Finally, the current pilot study also sought to systematically explore whether there was an association between the severity of depressive symptoms and individual patient characteristics, including quantified resilience and illness perceptions. Preliminary results indicated that all three constructs were strongly correlated with each other. More specifically, participants that endorsed a higher severity of depressive symptoms were more likely to have a lower quantified resilience and a more threatening view of their illness. In addition, participants who endorsed a lower quantified resilience were more likely to have a more threatening view of their illness. Considering these associations between depression, resilience, and illness perception, preliminary results further suggest that assessing for these characteristics might be important prior to and throughout treatment.

Limitations and Future Directions

Given that the results reported are of a pilot, they should be interpreted with caution. Taking into account the current pilot study and the preliminary results, there will be a number of future directions that will be followed. First, future data collection will include a larger sample that will aim to be more demographically diverse and thus, more generalizable to the greater population. Second, in order to increase the validity of the implications and as data collection is ongoing, future analyses will include additional inferential and nonparametric statistical tests. Third, the current pilot sample consisted of

some non-treatment seeking individuals. The authors presented participants with an "Imagine Self" vignette to control for this extraneous variable. However, it is still possible that individuals who are seeking treatment may respond differently when asked to indicate specific treatment preferences compared to individuals who are not seeking treatment. Future analysis will include a closer examination of potential differences between participants who indicate that they are actively seeking psychological treatment and those who indicate that they are not. Finally, while women diagnosed with breast cancer was the target population, it is possible that there might be gender differences with both acceptability of the SC Model and specific treatment preferences. As a result, future data collection will include recruiting men diagnosed with prostate cancer to examine potential variability.

Conclusion

The purpose of the current pilot study was to assess the feasibility of conducting a larger-scale study utilizing the current study design. Given the impact of depression on the progression and prognosis of women diagnosed with breast cancer, it becomes important to effectively treat depressive symptoms in oncology. Further, the current barriers to treating depression in this population warrant examining models of care that might improve the dissemination of psychological treatments to patients with cancer. Results of the current pilot study gave preliminary evidence on how patients might view the SC Model, what psychological treatment for depression might be preferable for a woman diagnosed with breast cancer, and how specific individual characteristics are related to each other. Finally, the preliminary results of the current pilot study will guide future data collection and statistical analyses.

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Appendix

Treatment Preference Inventory (TPI)

The purpose of the Stepped-Care Model of treatment is to increase the intensity of treatment in four "steps." This model aims to begin with the lowest and least intensive form of treatment that is available for treating depressive symptoms. As steps increase, so does the intensity of treatment. Treatments range from no treatment at all (e.g. the least intensive) to inpatient hospitalization (e.g. the most intensive). Matching patients with the appropriate treatment depends on how much symptoms may be impacting one's life and which treatment one prefers to start with.

Following this description are the treatments offered within each step of the Stepped-Care Model. Each description outlines what one could expect if given the treatment. Following each description are two questions on how acceptable you perceive the treatment to be. Please read each description and indicate the number that best corresponds to your personal views.

STEP ONE: Also known as no treatment.

Watchful Waiting: This option is also known as no treatment. While watchful waiting is not an active treatment, this option attributes improvement of symptoms to time.

1. Do you find watchful waiting to be an acceptable form of treatment?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

STEP TWO: Consists of options that can be achieved on one's own or with minimal contact with a mental health professional.

Psychoeducation: This treatment includes learning information about depression as a disorder. Topics might include signs, symptoms, what one can expect when experiencing a depressive episode, and different ways one might be able to cope with depressive symptoms.

2. Do you find psychoeducation to be an acceptable form of treatment?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

Self-Help: Self-Help is defined as a self-directed activity aimed at improving one's life. Specific goals of self-help might include learning problem-solving skills, gaining insight and awareness, managing difficulties you may be experiencing, improving relationships, and/or reaching your goals.

3. Do you find self-help to be an acceptable form of treatment?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

Skip Logic: *If Not Acceptable Is Selected, Then Skip To STEP THREE: Consists of*

weekly or mon...

Format Self-Help: Self-Help can be guided or unguided. Guided consists of having a mental health professional provide weekly instructions and feedback about one's progress, while answering any possible questions. Unguided does not include any assistance from a mental health professional and can be completed fully on one's own.

4. If you were to use self-help materials, would you prefer guided or unguided?
   - o Guided
   - o Unguided

5. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

Delivery of Self-Help: There are a number of different delivery methods for self-help. For example, individuals can find resources through books, mobile applications, and Internet-based programs.

6. If you were to use self-help materials, what delivery method would you prefer?
   - o Books
   - o Mobile Applications
   - o Internet-Based Programs

7. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

STEP THREE: Consists of weekly or monthly contact with a mental health professional.

Medication: Treatment consists of meeting with a prescriber at least once a month. Antidepressant medications work to balance some of the natural chemicals in our brains. These chemicals are called neurotransmitters, which affect mood and emotional responses.

8. Do you find medication to be an acceptable form of treatment?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

Psychotherapy: Treatment consists of engaging in weekly therapy sessions in order to develop skills to cope with and manage psychological distress.

9. Do you find psychotherapy to be an acceptable form of treatment?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

Combined Psychotherapy and Medication: Treatment consists of combining the two treatments listed above.

10. Do you find the combination of psychotherapy and medication to be an acceptable for of treatment?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

Skip Logic: *Answer If "Do you find psychotherapy to be an acceptable form of treatment?" Not Acceptable Is Not Selected Or "Do you find the combination of psychotherapy and medication to be an acceptable for of treatment?" Not Acceptable Is Not Selected*

Format of Psychotherapy: Psychotherapy can be delivered individually or through a group setting. Individual psychotherapy consists of a therapeutic relationship between a mental health professional and a client. Group psychotherapy typically consists of 6-10 members. Group psychotherapy allows members to develop and follow treatment plans while also engaging in a social dynamic to learn different interpersonal skills.

11. If you were to seek out psychotherapeutic services, would you prefer it to be individual or group?

- Individual
- Group

12. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

Skip Logic: *Answer If "Do you find psychotherapy to be an acceptable form of treatment"? Not Acceptable Is Not Selected Or "Do you find the combination of psychotherapy and medication to be an acceptable for of treatment?" Not Acceptable Is Not Selected*

Different psychotherapies utilize a variety of theories and techniques. Below is a list of brief descriptions for different types of empirically supported psychotherapies for one who might be experiencing depression. For the following questions, please indicate the choice and number that best corresponds to your views.

Cognitive Therapy (CT) for depression is based on the belief that depression is caused by negative thinking and distorted beliefs. Patients are taught to monitor and record their negative thoughts. This way they can identify the relationship between their thoughts, feelings, physical symptoms and behaviors.

Behavioral Activation (BA) Therapy is based on the belief that when people get depressed, they withdraw from their environment, engage in escape behaviors, and stop following their routines. Over time, this avoidance worsens mood. The goal is to help patients create opportunities to find pleasure in activities they once enjoyed.

Interpersonal Therapy (IPT) stresses the understanding and treating of depression by addressing interpersonal issues. IPT puts emphasis on the way symptoms are related to a person's relationships. This includes both family and peers.

Problem-Solving Therapy (PST) is based on the idea that depression can often be understood as the negative consequences of ineffective coping and problem solving. When one can't cope with a situation or solve a problem, it stresses them out and worsens their depression. PST is aimed at helping the patient to improve their ability to cope with stressful life experiences and better solve their problems.

Mindfulness is based on the concept that when one is depressed, they repeatedly think about everything that they believe to be wrong in their life. Mindfulness aims to help the patient by having them purposely focus on what is occurring in the present moment, without judgment in order prevent negative assumptions.

13. Out of the above stated psychotherapies, which would you most prefer to receive if you were seeking psychotherapeutic services?

- o Cognitive Therapy (CT)
- o Behavioral Activation (BA)
- o Interpersonal Therapy (IPT)
- o Problem Solving (PST)
- o Mindfulness

14. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

Skip Logic: *Answer If "Do you find psychotherapy to be an acceptable form of treatment?" Not Acceptable Is Not Selected Or "Do you find the combination of psychotherapy and medication to be an acceptable for of treatment?" Not Acceptable Is Not Selected*

15. Who of the following would you most prefer to receive psychotherapy from?

- o General Practitioner
- o Oncology Nurse
- o Mental Health Professional (e.g. counselor, therapist, psychologist)

16. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

Skip Logic: *Answer: If "Do you find medication to be an acceptable form of treatment?" Not Acceptable Is Not Selected Or "Do you find the combination of psychotherapy and medication to be an acceptable for of treatment?" Not Acceptable Is Not Selected*

17. Who of the following would you most prefer to receive medication from?

- o Psychiatrist
- o General Practitioner
- o Advanced Practiced Nurse

18. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

STEP FOUR: Consists of ample contact with a mental health professional.

Intensive Outpatient or Partial Day Program: This treatment method includes actively attending a day program 3-5 times a week that can last anywhere from 3-6 hours each day. During this time, the member participates in group activities and group sessions that focus on various topics that surround depression as a mental illness.

19. Do you find intensive outpatient and/or partial day programs to be an acceptable form of treatment?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

Inpatient Program: This treatment method includes hospitalization for 24 hours a day. During this time, mental health professionals will work to get you stabilized within a 72-hour period in order to refer you to a lower level of care.

20. Do you find inpatient programs to be an acceptable form of treatment?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

Imagine that you have been experiencing symptoms of depression (i.e. depressed mood, loss of pleasure/interest in activities, feelings of guilt/worthlessness, difficulty concentrating, changes in weight/appetite while not dieting) and that you have decided to seek help for these depressive symptoms. For the following questions, please indicate which step you would prefer to start with given the level of depressive symptoms you might be experiencing or imagine to be experiencing.

21. At which step of the Stepped-Care Model would you prefer to start?

- o Step One (e.g. Watchful Waiting)
- o Step Two (e.g. Psychoeducation and/or Self-Help)
- o Step Three (e.g. Psychotherapy and/or Medication)
- o Step Four (e.g. Intensive Outpatient, Partial Day Program, Inpatient Program)

22. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

23. If you were starting treatment, what treatment within step two of the Stepped-Care model would you prefer?

- o Psychoeducation
- o Self-Help (e.g. books, mobile applications, or Internet sites)

24. How Strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

25. If you were starting treatment, what treatment within step three of the Stepped-Care model would you prefer?

- o Psychotherapy
- o Medication
- o Combined Psychotherapy/Medication

Skip Logic: *If Step Two (e.g. Psychoeducat... Is Selected, Then Skip To If you were starting treatment, what ...If Step Three (e.g. Psychother... Is Selected, Then Skip To If you were starting treatment, what ...If Step Four (e.g. Intensive O... Is Selected, Then Skip To If you were starting treatment, what ...*

26. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

27. If you were starting treatment, what treatment within step four of the Stepped-Care model would you prefer?

- o Intensive Outpatient/Partial Day Program
- o Inpatient Program

28. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

Below are some alternative types of care that might also be effective for individuals experiencing depression. For the following question, please indicate the number that best corresponds to your views.

Alternative forms of treatment might include any of the following: Physical Activity Programs (i.e. exercise/nutrition based classes to promote wellness), Yoga, Meditation, and Group-Based Support Programs (i.e. groups that are not led by a mental health professional).

29. Do you find ANY of the alternatives forms of treatment to be acceptable for treating depressive symptoms?

Not Acceptable 2 Moderately Acceptable 4 Very Acceptable

Skip Logic: *If Not Acceptable Is Selected, Then Skip To End of Survey*

30. Among the alternative forms of treatment, which would you MOST prefer to engage in?

- o Physical Activity Programs
- o Yoga
- o Meditation
- o Group-Based Peer Support Programs

31. How strong is this preference?

Not Strong 2 Moderately Strong 4 Very Strong

Thank you for participating in this survey!