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Feasibility of an Internet-based Positive Psychological Intervention for Hemodialysis Patients with Symptoms of Depression

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Abstract

Background: Depression is a pervasive psychological issue facing hemodialysis (HD) patients. Novel technology-based treatment strategies that deploy psychology-based interventions have not been the focus for therapy and few published studies exist. The aim of the current trial was to determine the feasibility and acceptability of an Internet-based positive psychological intervention in HD patients with comorbid depressive symptoms.

Methods: HD patients (n=14) with elevated symptoms of depression were enrolled in a single-arm pre-post trial with clinical assessments at baseline and immediately post intervention. Chairsides during regularly scheduled HD treatment, patients utilized a web browser to completed on-line modules promoting skills for increasing positive emotion over a 5-week period using Apple iPads. Targeted skills included noting of daily positive events, gratitude, positive reappraisal, acts of kindness, and mindfulness/meditation.

Results: Twelve of 14 patients completed the program for an 85.7% retention rate. Participants felt satisfied with each session and offered consistently positive feedback. On average, participants visited the website 3.5 times per week. Significant improvements were evident for depressive symptoms (15.3 vs. 10.9; $p=0.04$), as per the Center for Epidemiological Studies Depression Scale.

Conclusions: An innovative Internet-based positive psychological intervention represents a feasible and useful therapeutic option for HD patients with depressive symptoms.

Keywords

depression; end-stage renal disease; hemodialysis; pilot trial; psychosocial therapy; psychological well-being; quality of life

Hemodialysis (**HD**) is a challenging procedure that often produces major stress in this patient population given extensive illness burden and stringent self-care demands (Kimmel, 2002). Depression is the most pervasive psychological issue in this population serving as a significant added burden with one-third of hemodialysis patients in the U.S. reporting compromised emotional well-being (Cukor, Peterson, Cohen, & Kimmel, 2006; Ravaghi et al., 2017). Co-morbid depression considerably exacerbates disease progression and is associated with lower rates of adherence to dialysis prescriptions (DiMatteo, Lepper, & Croghan, 2000), increased markers of systemic inflammation, compromised cellular immunity, greater risk of hospitalization (Hedayati et al., 2008), and decreased survival (Farrokhi, Abedi, Beyene, Kurdyak, & Jassal, 2014). Unfortunately, current interventions to treat depressive symptoms in patients undergoing hemodialysis are resource intensive and infrequently administered (Rabindranath et al., 2005), particularly as nephrology social workers become overburdened with additional responsibilities (e.g., pre-dialysis education, interdisciplinary care planning, agency referrals, and discharge planning, among others) and high caseloads. Multiple constraints impact direct contact to alleviate suffering and associated psychological distress.

In this context, pharmacotherapy has been the premier treatment strategy to address depression in hemodialysis patients (Cohen, Norris, Acquaviva, Peterson, & Kimmel, 2007). Yet, healthcare providers and patients are reluctant to add another drug to the existing regimen unless severe psychopathology (e.g., suicide ideation) is evident given plausible side effects and poor adherence to pharmacotherapy. Further dissuading drug therapy is the heightened pill burden, especially considering HD patients in the U.S. are already prescribed an average of 12 medications per day (Manley et al., 2004). Deployment of alternative non-pharmacotherapy treatment strategies, however, is largely absent and understudied (Rabindranath et al., 2005; Xing et al., 2016). The few published trials on the therapeutic effects of psychological strategies in hemodialysis patients overwhelmingly focus on face-to-face delivery of strategies such as cognitive behavioral therapy (**CBT**) (Cohen et al., 2007; Xing et al., 2016). Although CBT shows promise in reducing symptoms of depression and in increasing compliance with fluid intake, this therapeutic approach presents significant challenges given complexity and intensiveness of such interventions, which require highly trained clinicians for appropriate delivery and multiple in-person communications. Thus, there remains a critical need to identify practical, well-accepted, sustainable, and cost-effective therapies to alleviate depressive symptoms in at-risk hemodialysis patients.

A new non-pharmaceutical strength-based approach may serve as a less resource intensive strategy to reduce symptoms of depression and enhance associated psychological assets in hemodialysis patients. These asset-based psychosocial techniques are collectively known as positive psychological interventions (**PPIs**) (Seligman, Steen, Park, & Peterson, 2005; Sin & Lyubomirsky, 2009). PPIs directly focus on promoting attributes including gratitude, optimism, emotional vitality, and positive affect, among others, through deployment of activities such as recalling positive life events, identifying and using personal strengths, regular practice of mindfulness and meditation, and planning and performing acts of kindness (Seligman et al., 2005). Unlike standard psychotherapy, PPIs are focused not on mere eradication of psychopathology but they further seek to amplify daily experiences of

positive emotion and thus promote overall flourishing and emotional resilience. A meta-analysis of PPIs documents their effectiveness in alleviating symptoms of depression in heterogeneous samples of relatively healthy adults with effects similar to that of psychotherapy and pharmacotherapy (Sin & Lyubomirsky, 2009). More recently, therapeutic benefits have been documented in clinical populations with diabetes, heart disease, and HIV (Huffman, DuBois, Millstein, Celano, & Wexler, 2015; Moskowitz et al., 2017). However, heightened clinical burden of in-office sessions and intense self-care requirements of hemodialysis patients necessitates formal testing of the standard low-intensity PPI in the context of weekly filtration of the blood to rid of particle waste and excess fluid.

An additional benefit of PPIs, similar to other straightforward therapies, is their viability for remote distribution options. On-line interfaces are less expensive than face-to-face formats and offer the flexibility for patients to customize dosage and frequency of site navigation, as needed (Schueller, Muñoz, & Mohr, 2013). On-line PPIs have been delivered successfully via remote distribution option, e.g., automated websites, phone apps, among others, with a proven track record for efficacy and cost-effectiveness (Bolier et al., 2014; Drozd, Mork, Nielsen, Raeder, & Bjørkli, 2014; Gander, Proyer, Ruch, & Wyss, 2013; Schueller & Parks, 2012). A randomized trial in the Netherlands testing a 2-month on-line PPI in 284 adults with depression evidenced greater clinically meaningful improvements in depressive symptoms, when compared to a wait-list control group (44.8% reduction vs. 29.8%), with probability of 44–47% for cost-savings (Bolier et al., 2014). Schueller et al. (2012) further detailed congruity in rates of attrition irrespective of intervention length—2-, 4-, and 6-weeks—with the caveat of not overwhelming participants with unlimited content and choice. Indeed, potential for increased scalability and accessibility renders on-line PPIs an attractive therapeutic alternative to that requiring an in-person professional therapist.

To date, there is no published work on use of technology and delivery of psychosocial therapies via an on-line format among hemodialysis patients. This is despite the efficacy of computerized interventions in other clinical samples (Lorig et al., 2010). In light of the existing state of the science, the aim of the current pilot trial was to determine feasibility and acceptability of an Internet-based positive psychological intervention in hemodialysis patients with comorbid depressive symptoms. Assessment of feasibility considered recruitment, refusal, retention, and compliance/adherence rates while acceptability was determined through subjective ratings and self-reported utility/usefulness of the intervention content and modality of delivery. As an exploratory aim we tested pre-post intervention effects in reducing symptoms of depression and improving quality of life and dietary adherence.

METHODS

Population, Study Setting, and Recruitment

A single-arm pre-post pilot trial was conducted to test feasibility of delivery of a 5-week Internet-based positive psychological intervention in HD patients with elevated symptoms of depression. Patients were eligible for the trial if they met the following criteria: a) aged 18 years, b) on chronic HD for 3 months, c) reporting elevated symptoms of depression defined using the Center for Epidemiologic Studies Depression Scale (Radloff, 1977) (score

10), d) fluent in English, and e) absence of serious comorbid medical conditions, as per clinical staff, that might affect participation (e.g., blindness). A total of 14 participants were enrolled in the trial (see Figure 1). The pilot trial was approved by the Institutional Review Board of the University of Illinois at Urbana-Champaign and written informed consent was obtained from all enrolled participants.

The HD patients were recruited from a single outpatient HD clinic located in Champaign, Illinois. During individual patients' HD treatment, research staff approached prospective candidates and provided study details. Those wanting to enroll in the trial underwent full screening to determine eligibility. Patients deemed qualified provided written informed consent and completed a baseline battery of questionnaires. Once baseline metrics were collected, participants were scheduled to access the on-line PPI material at their next HD session (≈ 1 day after baseline exam).

Internet-based Positive Psychological Intervention

The current Internet-based positive psychological intervention (**PPI**) was an adaptation of an empirically-validated on-line psychotherapeutic intervention to reduce depressive symptoms in patients with type 2 diabetes, i.e., *Developing Affective Health to Improve Adherence (DAHLIA)* (Cohn, Pietrucha, Saslow, Hult, & Moskowitz, 2014). This non-pharmacotherapy approach aims to increase positive emotional experiences by teaching individuals to engage in intentional activities known to increase positive psychological well-being through targeting of constructs such as optimism, gratitude, mindfulness/relaxation, and resilience. Skills targeted in the on-line PPI curriculum are detailed in Table 1, e.g., noticing daily positive events; meditation and informal mindfulness practices; positive reappraisal of stressful events; etc.

In the current pilot trial, patients attending their regularly scheduled maintenance HD treatments worked through the 5-week Internet-based intervention. The PPI was administered through an investigator-purchased tablet computer (Apple iPad); note, tablets were sanitized after each use to eliminate blood borne pathogens. Participants accessed intervention content by connecting to our website (<http://marigoldstudy.org/upgrowth>) via a web browser. Figure 2 displays sample screenshots of our website. During each HD treatment patients read the material and completed the exercises for each given skill at their own pace. Research staff was available to assist participants if they encountered issues in navigating the on-line interface and/or if they had difficulty interacting with the Apple iPad, but did not answer questions or provide instruction about the intervention content. Using a unique username and password, patients logged into the website 3 times per week to complete 20–30 minute sessions; that is, they accessed the site every time they were at the clinic for their scheduled HD treatment. Each week began with one day of didactic material, including text, images, and videos, covering one or more of the skills. On subsequent days of the week participants completed brief exercises that involved practicing the skills directly (e.g., recalling an event for which they were grateful) or making plans to incorporate the skills into their day-to-day life outside the dialysis center (e.g., selecting an attainable goal for the week and making specific plans for achieving it). All web content was user-tested to ascertain readability.

Measures and Assessment Procedure

Key metrics to assess feasibility were as follows: (1) recruitment rates, (2) refusal rates, (3) retention rates, and (4) (non)compliance or adherence rates. Judgment of acceptability was more qualitative in nature as it considered participants' subjective ratings of the intervention content and modality of delivery and whether it was deemed enjoyable, comprehensible, and beneficial.

In our exploratory aim testing intervention effects on depressive symptoms, quality of life, and dietary adherence, all self-report information and survey data were collected at baseline and at the conclusion of the 5-week intervention. A research assistant was available to assist participants who experienced difficulty in completing survey instruments on their own.

Background Measures.—A brief questionnaire was used to elicit demographic information and information regarding prevalent medical comorbidities (i.e., hypertension, hypercholesterolemia, and diabetes). Body mass index (BMI) was calculated from self-report measures of height (to the nearest centimeter) and weight (to the nearest 0.1 kg). The socio-demographic factors collected included baseline age (in years), sex, race/ethnicity, nativity, marital status, educational attainment, income, employment, and health insurance coverage.

Center for Epidemiologic Studies Depression Scale (CES-D).—The 20-item CES-D was used to screen for depressive symptoms ranging from mild to that indicative of elevated risk for clinical depression (Radloff, 1977). The CES-D uses a 4-point Likert scale (0 – rarely to 3 – most or all of the time) to probe the extent to which an individual has been troubled by depressive symptoms within the last seven days. Sample items include: “I was bothered by things that usually don’t bother me”; “I thought my life had been a failure.” A total score was generated ranging from 0–60 with higher values indicative of greater depressive symptomatology.

Kidney Disease Quality of Life (KDQL).—The KDQL is a self-report survey designed for kidney disease patients to measure health related quality of life (Hays, Kallich, Mapes, Coons, & Carter, 1994). The questions pertain to the patient’s subjective experience with kidney disease and focuses on burden of illness, disease-related symptoms, social interactions, interaction with clinical staff, and overall patient satisfaction. Previous research documents excellent psychometric properties with robust validity and internal consistency (Ricardo et al., 2013).

Renal Adherence Behavior Questionnaire (RABQ).—The RABQ is a self-reported measure of dietary adherence (Rushe & McGee, 1998). It includes twenty-five questions that focus on fluid and diet restrictions that affect kidney disease patients, e.g., “I have difficulty restricting my intake of beer/wine”; “Overall, I restrict my salt intake.” The questionnaire uses a Likert scale: Strongly Agree (1 point), Agree (2 points), Neutral (3 points), Disagree (4 points), Strongly Disagree (5 points). The RABQ has been tested and successfully administered in the hemodialysis patient population.

Statistical Analyses

Data analysis was conducted using SPSS 23 (IBM SPSS Statistics 23 for Windows, 2015). Descriptive statistics summarizing baseline characteristics for the total sample are reported for socio-demographic factors, chronic illness status (diabetes, hypertension, and hypercholesterolemia) and quality of life; these are presented as frequencies, percentages, and means as appropriate. Due to the pilot nature of this study, intervention effects are examined through exploratory analyses of impact on outcomes. At the sample level, we conducted paired-samples t-tests to determine the magnitude of pre-post changes in participants' psychological well-being, quality of life, and dietary adherence as a function of the intervention. These tests were used to produce effect sizes (Cohen's *d*).

RESULTS

Baseline Characteristics of the Sample

Table 2 provides patient characteristics ($n = 14$). The mean age was 57.43 years ($SD = 12.12$) with equal distribution of men (50%) and women. All participants were born in the U.S.; 50% identified as non-Hispanic White, 42.9% as African American, and 7.1% Hispanic/Latino. This patient population reported low levels of income and an average of 3.6 years of active hemodialysis therapy. Table 2 additionally tabulates self-reported prevalence of medical comorbidities, particularly major risk factors for end-stage renal disease, and the mean score for depressive symptoms.

Feasibility of Implementation and Process Evaluation

Figure 1 presents the CONSORT table summarizing overall enrollment and rate of dropout. A total of 48 patients were assessed for eligibility of which 34 were excluded for reasons as follows: (a) depressive symptoms were non-elevated ($n=1$), (b) extant serious medical comorbidity ($n=1$; i.e., blindness), (c) non-English speaker ($n=1$), and (d) declined with rationale unspecified ($n=20$). Twelve of 14 hemodialysis patients completed the 5-week intervention for an 85.7% retention rate, with a majority of factors leading to drop-out unrelated to program content and mode of delivery (e.g., health-related issues or complications). No differences were evident when comparing adults who completed the 5-week intervention versus non-completer by age (57.6 vs. 56.6; $p = 0.91$) or sex (equal distribution of male/female in both groups). On average, participants visited the on-line intervention website 3.5 times per week and had an average screen time of 24.5 minutes per session (~73.5-minutes each week). Across skillsets, participants completed associated practice exercises an average of 2.2 times. Note, hemodialysis patients of our Champaign site attend therapy 3 times per week for 3–4-hour sessions; upon request, only one participant was granted access to our website off-line to engage in our meditation module from home.

Participants' ratings of utility and usefulness of intervention content and distribution modality are summarized in Table 3. Overall, participants indicated that modules and practice exercises conveyed information clearly and were of benefit. On a scale from 1 to 10, with 10 representing the most favorable ranking, participant evaluation of weekly modules ranged from as low as 6.6 to a high of 8.3. Open-ended questions at the conclusion of the

intervention provided qualitative data where participants evaluated overall intervention content and modality of delivery; open-ended items were as follows—“What did you like the most about today’s session?”, “What did you not like about today’s session?”, and “What recommendations do you have for improving today’s session?”. In general, participants enjoyed reading the on-line material with particularly positive feedback for modules seeking to cultivate gratitude, mindfulness, and heightening of positive events in life. A patient commented that, “[The program] helped me enjoy life more.” Of the 12 participants who completed the program, 75% found that the intervention was beneficial in helping them cope with their kidney disease. A few areas for improvement were also identified. First, participants found it difficult to hold and maneuver the iPad given restricted mobility as their dominant arm was often the site of their vascular access and was often left immobile. Second, internet connection issues hindered access to the on-line material and impaired viewing of embedded videos. Literacy proved to be an issue as participants indicated that too much reading and typing was required as part of the program. Finally, participants found it cumbersome and redundant to report their daily emotions each time they received dialysis treatment.

Changes in Intervention Outcomes

Table 4 shows pre-post intervention changes in depressive symptoms, quality of life, and self-care adherence. At the end of the 5-week intervention, significant improvements were evident for depressive symptoms with an average 4-point drop in the overall score (15.3 vs. 10.9; $p = 0.04$). An even bigger effect size was evident among those whose CES-D score was 16 at baseline ($n = 5$; 20.8 vs. 11.6; $p = 0.04$; $d = 1.4$). Statistical trends indicated clinically meaningful improvement in multiple quality of life (QOL) domains, including emotional well-being, kidney disease burden, quality of social interactions, and physical vigor. Although not statistically significant, participants also reported greater engagement in self-care behaviors overtime, overall and including intake of potassium phosphate and sodium. Given the small sample size of the current pilot study, we were likely underpowered to detect significant differences as a function of the intervention when conducting paired-sample t-tests.

DISCUSSION

The current study demonstrates feasibility of a low-intensity Internet-based intervention that offers an alternative to the dominant approach of pharmacotherapy, without drug-related side effects and associated medication non-adherence. We applied a strength-based psychosocial approach to increase emotional well-being. The results offer preliminary evidence suggesting that psychosocial interventions are viable alternatives to the current drug prescription overreliance. Indeed, our study confirms feasibility and acceptability of an Internet-based positive psychological intervention with significant improvements in depressive symptomatology over a 5-week period. In an era of rising medical costs, effective treatment of depressive symptoms in hemodialysis patients can dramatically impact quality of life, morbidity, and mortality, and garnering of technology-based tools is of great import to the field of social work and public health if wide-dissemination is to be achieved.

To date, only eight clinical trials have been published on the use of psychosocial strategies to treat hemodialysis patients with comorbid depressive symptoms. These are summarized in a meta-analysis published by Xing et al. in 2016 (Xing et al., 2016). The efficacy of psychological interventions is substantiated in Xing's meta-analysis in that they showed overall improvements in depressive symptoms and interdialytic weight gain. A majority of these trials (i.e., 5 of 8) delivered cognitive behavioral therapy in the clinical setting using a face-to-face mode of delivery while patients were undergoing treatment. None of the trials take advantage of current technologies that can improve cost-effectiveness and which can more easily propagate wide dissemination. This is a critical gap in the science. Integration of technology into non-pharmacological treatment is lagging behind, and is increasingly of vital importance, making our Internet-based approach of unique interest with the potential for wide utility across the more than 400,000 patients undergoing dialysis in the U.S. alone. In an era where social workers are overburdened with large caseloads, technology to promote positive mental health in hemodialysis patients may prove to be a vital tool to enhance their current clinical practice.

Referred to as behavioral health technologies (**BITs**) (Schueller et al., 2013), psychologists are advancing the science that leverages state-of-the-art technology to delivery mental health services to improve emotional well-being and overall health. BITs include systems such as telehealth, mobile health apps, and Internet sites, all meant to digitally dispense intervention strategies to improve physical and emotional well-being in healthy and clinical samples. Technological interventions have shown efficacy comparable to traditional face-to-face therapy and offer the ability to "scale up" proven interventions to much larger numbers of users without comparable increases in cost. Because many of these interventions are self-paced and incorporate practices into daily life, they can transcend geography, time, and space (Schueller et al., 2013). BITs have proven a useful tool to improve human wellness (Schueller et al., 2013). However, BITs have been disregarded as a tool to improve emotional well-being in hemodialysis patients who are a vulnerable population with extremely compromised health.

Many of the barriers encountered in disseminating BITs into daily life are circumvented in HD patients. First, patients receiving HD treatment are a captive audience attending clinic sites that can facilitate internet accessibility and who may be incentivized to invest in technological upgrades to meet current Federal Centers for Medicare and Medicaid Services (CMS) mandates. Second, patients may welcome purposeful engagement in stimulating tasks during treatment. Recurrent and routine clinic visits are a prime opportunity to intervene with behavioral and psychotherapeutic techniques that are useful, effective, and engaging, with the potential to substantially improve emotional well-being and quality of life. Qualitative research indicates that HD patients often experience boredom while undergoing HD treatment with feeling that treatment is too time-consuming and a waste of time. This is highlighted in a quote of Nazly et al. (2013), "At least 60% of my time is wasted on dialysis; this includes 2 hours of transportation to the dialysis unit and back, and 3 to 4 hours of treatment. By the time I get home, I am exhausted, and my whole day is gone..."(Al Nazly, Ahmad, Musil, & Nabolsi, 2013). As such, integration of behavioral

health technologies may prove particularly viable in hemodialysis patients if designed to maximize both entertainment and engagement.

The website for this pilot study was created using inclusive design principles and usability testing to create a simple, straightforward interface that may have contributed to high rates of retention and acceptability. However, feedback from participants indicated that the primarily text-based delivery of information is a weakness, creating undesirable friction or cognitive burden for many users. Future versions of the intervention can utilize simple video lectures and demonstrations instead of or alongside text. The app or website can be designed to pre-cache video data in order to avoid the issues we observed with poor internet connectivity (or a related issue, excessive use of cellular data). A challenge unique to this population is the need for personal reflection exercises that don't require extensive typing, due to restricted arm motion while undergoing HD. Speech-to-text interfaces may provide a solution, though they require care in implementation due to privacy issues. As technology continues to evolve, newer solutions may become available to enhance the accessibility of BITs. Virtual reality applications have been successfully deployed in the medical setting across a range of health conditions, particularly as a distraction tactic when delivering painful treatment (Malloy & Milling, 2010). Future research should more fully exploit new technologies.

Several limitations should be noted. Nonrandom sampling can introduce bias when self-selection is driven by unique underlying factors of prospective enrollees. This is a limitation that is difficult to quantify, however, as demographic data was not gathered from those refusing to participate, nor did they provide rationale for non-participation. It remains unknown whether decline of study invitation by HD patients approached for screening is an expression of limited feasibility and acceptability, thus influencing results of the current study, however, it serves as an impetus to develop innovative approaches to bolster rates of recruitment. Given the pilot nature of the study, a small sample size was evident that limited the power to detect intervention effects for main outcomes of interest, including self-care behavior and quality of life. Results are largely applicable to HD patients residing in a rural setting and those with limited socio-economic resources. This was not a randomized trial and lacked a control group which negates the ability to differentiate potential effects of the intervention from non-specific effects such as social interaction and/or regression toward the mean. Although well-validated instruments were used throughout, potential for a biased response is plausible when self-reporting quality of life profiles and compliance to the disease-related regimen. An additional limitation relates to the long-term sustainability of effects. Future trials will need longer follow-up periods to test whether our 5-week positive psychological intervention has lasting long-term effects on emotional well-being or whether there is return of depressive symptoms over time. Future studies may also want to test effects in patients with clinical depression as evaluated by a clinician using criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM). Finally, future trials will need to examine use of our Internet-based positive psychological program (e.g., for home practice) between HD treatment sessions.

In conclusion, by using an Internet-based positive psychological intervention, we observed a reduction in depressive symptoms in HD patients with comorbid depressive symptoms.

Importantly, our intervention did not modify the patients' medication regimen through use of anti-depressants and instead reduced face-time with clinical staff had traditional psychotherapeutic modalities been used. Social workers may want to supplement current efforts (e.g., CBT or symptom-targeted intervention (Sledge et al., 2011)) with our web-based tool to widen dissemination and ease workload volume. This can be accomplished by having clients visit the website while undergoing HD treatment or by providing the web address so participants can access the intervention from the comfort of home. As technology continues to advance, it is important that healthcare providers harness the power of behavioral health technologies to improve the lives of hemodialysis patients by promoting sustained quality of life and healthy longevity. Indeed, the nephrology (hemodialysis) social worker can put technology to work to contribute to the overall well-being of hemodialysis patients.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1:
CONSORT Table

UPGROWTH Reducing Stress Through Positive Emotions

HOME > UPGROWTH-EN

YOUR PROGRESS

Week 5: Acts of Kindness

- Bonus Lesson: Keep your positive emotion skills going!
- Bonus Material! Pictures, tips, and handouts for Acts of Kindness
- Acts of Kindness practice
- Skill 8: Acts of Kindness

Week 4: Strengths and Goals

- Strengths & Goals practice
- Skill 7: Goals
- Bonus Material! Pictures, tips, and handouts for Strengths and Goals
- Skill 6: Strengths

Week 3: Positive Reappraisal

- Bonus Material! Pictures, tips, and handouts for Positive Reappraisal
- Skill 5: Positive Reappraisal

UPGROWTH Reducing Stress Through Positive Emotions

HOME > UPGROWTH-EN > WEEK 3: POSITIVE REAPPRAISAL > SKILL 5: POSITIVE REAPPRAISAL

Introduction

This week we talk about another skill that helps increase positive emotion: Positive Reappraisal. The thoughts and interpretations we have when something happens to us are called *appraisals*. A Positive Reappraisal is a positive change in how you think about something that happens to you.

In this video, you'll see a story about a person reappraising her daily bus ride. She starts out appraising it as an annoying waste of time, but then she finds a different way to look at it. It's a great example of how our appraisals of a situation can make the same event seem stressful and unpleasant, or they can make it relaxing and meaningful.

The Years Are Short Movie

Then suddenly it hit me. This bus ride was it.

Introduction

- Appraising the Bus
- Appraising the Bus
- Benefits of Reappraisal
- Finding the Silver Lining
- Reappraisal and Resilience
- Reappraisal Takes Practice
- Reappraising Serious Events
- Reappraisal Quotes
- Reappraisal - Summary
- Conclusion

Mindfulness (Some Science)

Mindfulness is related to feeling more positive emotion and also causes it to increase (1). For example, individuals who practice mindfulness show more adaptive coping and less anxiety and stress (2). Similarly, researchers found that a mindfulness program increased daily experience of positive emotions, which, in turn, was related to better mental and physical health (3).

Citations:

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As you breathe in cherish yourself. As you breathe out cherish all beings. ~ Dalai Lama

Mindfulness (Even More!)

Want to practice with an audio guide? Download a free one here: <http://goo.gl/Ltu4F>

To visualize your physiology as you are mindful, try this application: <http://goo.gl/ekhrd>

In *A Path with Heart*, by Jack Kornfield, he discusses loving-kindness mindfulness.

HOME > UPGROWTH-EN > INDEX OF EXERCISES > EVERYDAY MINDFULNESS PRACTICE

Everyday Mindfulness Practice

Practice mindfulness in daily activities

[View list](#) [View single](#) [Search](#) [Add entry](#)

New entry

What was the last activity you chose to do mindfully? Were you able to do it? (Remember, you don't have to do it "right." If you had a hard time being mindful, that means you were exercising your awareness and learning to recognize distractions.)

What moods, thoughts, and feelings did you experience while you were doing it?

What do you think about the experience?

Next activity

What's the next activity you'll try doing mindfully?

Figure 2:
Screenshots of our Internet-based Positive Psychological Intervention accessed via a Web browser

Table 1.**Positive Psychology Skills Imparted in the 5-week Internet-based Intervention**

Week 1	Positive Events and Capitalizing (Skills 1 and 2)	Individuals are equipped to note positive life events in their day-to-day encounters. Capitalizing is an expressive response to positive events and includes telling others about it, marking the occurrence in some way, or even thinking about the event again later on.
Week 1	Gratitude (Skill 3)	Gratitude is defined as a feeling of thankfulness and appreciation expressed toward others, which may include other people, nature, or God.
Week 2	Mindfulness (Skill 4)	Mindfulness is defined as the ability to intentionally pay attention to and maintain non-judgmental awareness of one's thoughts, feelings, and physical sensations in the present moment
Week 3	Positive Reappraisal (Skill 5)	Positive reappraisal is a form of coping in which the significance of the event is reinterpreted in a more positive way.
Week 4	Focusing on Personal Strengths (Skill 6)	Identifying and focusing on one's strengths as a form of self-affirmation to evaluate the resources possessed to cope with a stressful event.
Week 4	Attainable Goals (Skill 7)	Setting of realistic goals and imparting techniques to increase their progression and attainment.
Week 5	Altruistic Behaviors/Acts of Kindness (Skill 8)	Engagement in volunteerism and other altruistic behaviors.

Table 2.

Pilot Intervention Sample Descriptive at Baseline (n = 14)

Characteristics	Mean (SD) or n (%)
Age	57.43 (12.12)
Female (%)	7 (50)
Race/Ethnicity	
Non-Hispanic White	7 (50)
Black or African American	6 (42.9)
Hispanic/Latino	1 (7.1)
Avg Time on Dialysis (years)	3.6 (2.98)
BMI (kg/m ²)	34.5 (18.86)
Married (%)	5 (35.7)
Currently employed	3 (21.4)
Years of education	13.29 (2.46)
US Born (%)	14 (100)
Annual household income (below \$20,000)	6 (42.9)
Has health insurance (%)	12 (85.7)
Hypertension	13 (92.9)
Hypercholesterolemia	10 (71.4)
Diabetes	9 (64.3)
Depressive symptoms	15.48 (5.52)

Table 3.

Process Evaluation: Patient Ratings of Utility and Usefulness for Weekly Exercise Practices

		Week 1	Week 2	Week 3	Week 4	Week 5
1. Overall, how easy was it to complete this exercise or session?	Mean	6.8 (2.7)	6.9 (2.2)	8.32 (1.3)	7.6 (2.0)	8.4 (1.4)
	Median	6.0	7.0	8.5	8.0	8.5
	Min, Max	3, 10	3, 9	6, 10	3, 10	5, 10
2. Overall, how helpful was this exercise or session?	Mean	7.6 (1.9)	6.9 (2.5)	6.6 (2.3)	6.8 (2.9)	7.0 (2.7)
	Median	7.5	7.5	8.0	7.5	8.0
	Min, Max	5, 10	3, 10	2, 9	1, 10	2, 9

Table 4.

Pre-Post Intervention Changes in Depressive Symptoms (n=12)

	Baseline		Post-intervention		Pre-post Change		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p-value</i>	<i>d</i>
Depressive Symptoms (CES-D)	15.25	5.89	10.97	2.97	2.31	0.04	0.67
Positive Emotions	6.25	4.11	7.33	3.11	-1.44	0.18	-0.42
Kidney Disease Quality of Life (KDQL)							
Burden of kidney disease	35.94	24.73	38.54	21.29	-0.89	0.39	-0.26
Emotional well-being	71.67	19.03	79.67	7.90	-1.68	0.12	-0.48
Quality of social interaction	72.78	16.20	76.95	14.46	-0.75	0.47	-0.22
Effects of kidney disease	59.38	17.93	63.02	20.68	-0.88	0.40	-0.25
Symptom/problem list	73.42	12.72	73.26	13.41	0.05	0.96	0.01
Social support	65.27	20.67	72.22	26.91	-1.24	0.24	-0.36
Energy/fatigue	40.83	24.57	47.22	23.36	-1.52	0.16	-0.44
Renal Adherence Behavior Questionnaire (RABQ)							
Total Scale	73.67	10.94	73.92	11.74	-0.12	0.90	-0.01
Prescribed fluid	3.25	0.41	3.19	0.24	0.50	0.63	0.18
Prescribed potassium/phosphate	2.22	0.32	2.44	0.55	-1.70	0.13	-0.49
Self-care	3.20	1.14	2.55	1.44	1.30	0.25	0.50
Adherence in times of particular difficulty	3.75	0.85	3.52	0.92	1.40	0.18	0.26
Prescribed sodium	2.77	0.61	3.18	0.75	-1.50	0.17	-0.60