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The Effects Of A Life-Stress Interview For Women With Chronic Urogenital Pain: A Randomized Trial

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THE EFFECTS OF A LIFE-STRESS INTERVIEW FOR WOMEN WITH CHORNIC UROGENITAL PAIN: A RANDOMIZED TRAIL

by

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CHAPTER 1 INTRODUCTION

Study Overview

Chronic urogenital pain is an over-arching condition that encompasses disorders such as pelvic floor dysfunction, painful bladder syndrome, and interstitial cystitis; and primarily involves symptoms such as pain, pressure, and physical and sexual dysfunction. Chronic urogenital pain conditions are common, affecting nearly one in seven women in the United States. Further, $881.5 million is spent annually in health care costs for women with chronic urogenital pain, and the prevalence of chronic urogenital pain is expected to nearly double by 2050 (Mathias, Kuppermann, Liberman, Lipzchutz, & Steege, 1996; Wu, Hundley, Fulton, & Myers, 2009). Women with these symptoms tend to have anxiety, depression, and relatively high rates of lifetime trauma and abuse. Indeed, almost half of such patients report abuse at some point in their lifetimes (Varma & Gupta, 2005), and many others have conflicts or stress from key relationships. There is theory and evidence suggesting that unresolved abuse or emotional conflicts can trigger or exacerbate urogenital pain and other symptoms (Abbass, Kisley, & Kroenke, 2009), but assessment of the presence and role of psychological stress is rarely done in women's health care settings. Rather, medical assessment and treatment are focused on medication, physical therapy, and surgery. When mental health is assessed, it is typically done using brief scales of depression and anxiety, which do not provide a comprehensive view of stress, emotions, and health, nor do they motivate patients to change or relieve their symptoms.

There is little research on procedures for assessing stress, emotional processes, and their effect on physical symptoms in medical settings. However, cognitive and behavioral models propose behavioral assessment and motivational interviewing as ways to increase patient awareness and motivation to change (Goldfried, 1982; Flor & Turk, 2011; Prochaska, Redding,

& Evers, 2008; Rollnick, Miller, & Butler, 2008). Emotion-focused models, such as short-term psychodynamic therapy, affect phobia, and written emotional disclosure, emphasize the importance of increasing emotional arousal, focusing on unresolved conflicts, and experiencing and expressing avoided or suppressed emotions (Abbass et al., 2009; McCullough & Magill, 2009; Frisina, Borod, & Lepore, 2004). Cumulatively, these literatures suggest that a comprehensive life-stress interview that focuses on increasing awareness of the links between stress, emotions, psychological conflicts, and physical health through use of experiential techniques might be the most effective way to increase awareness and motivation to change and reduce physical and psychological symptoms in women with chronic urogenital pain. In this dissertation, I examined the effects of an intensive life-stress interview compared to a wait-list control condition on measures of attitudes to a mind-body orientation as well as physical and mental symptoms. It is hypothesized that women in the life-stress interview condition would have improvements in awareness and motivation compared to those in the wait-list control condition, and that women in the life-stress interview condition would show more improvements in physical and psychological symptoms than those in the wait-list control condition.

Background

Chronic urogenital pain can be broadly defined as pain lasting more than 6 months in the pelvic region and includes diagnoses such as pelvic floor dysfunction, chronic pelvic pain, and interstitial cystitis/painful bladder syndrome. These disorders often have multiple complex symptoms, are co-morbid with many other conditions, such as irritable bowel syndrome, fibromyalgia, and other chronic pain syndromes, and have unclear etiologies including multiple contributing factors. It is estimated that chronic pelvic pain affects approximately one in seven women in the United States: 3.3 to 7.9 million women suffer from interstitial cystitis or painful

bladder syndrome, and 28.1 million women have at least one pelvic floor disorder (Mathias et al., 1996; Berry et al., 2011; Wu et al., 2009). Further, it is estimated that the number of women with a pelvic floor disorder will increase to 43.8 million by 2050 (Wu et al., 2009). Currently, $881.5 million are spent annually in health care costs for women aged 18-50 years old that have chronic pelvic pain. These conditions also have a great impact on the daily functioning. Women with chronic pelvic pain reported that their ability to work effectively was diminished; 45% report decreased work productivity and 15% report losing pay from taking time off (Matthias et al., 1996).

In addition to the disability experienced from the physical symptoms associated with chronic urogenital pain conditions, these disorders are often related to psychological disorders, histories of trauma and/or abuse, and emotional neglect. One study estimated that 40-50% of women with chronic pelvic pain reported experiencing physical or sexual abuse in her lifetime, whereas population estimates in the U.S. suggest that approximately 25% of women experience physical or sexual abuse (Varma & Gupta, 2005). Additionally, when compared to women with chronic back pain as well as healthy controls, women with chronic pelvic pain were more likely to have experienced sexual abuse before the age of 15 and were more likely to have experienced physical abuse and emotional neglect than healthy controls (Lampe et al., 2000). A similar picture is seen in women with interstitial cystitis, for whom it has been estimated that 50% experienced some type of abuse. Of the women who reported experiencing abuse, many reported experiencing multiple forms of abuse, with 80% reporting emotional abuse, 65% reporting physical abuse, 58% reporting sexual abuse, 43% reporting domestic violence, and 17% reporting date rape (Peters, Carrico, Ibrahim, & Diokno, 2008). Currently, there are no data on the frequency of other, more nuanced psychological or internal conflicts in women with chronic

urogenital pain; however, our laboratory's clinical work with women who have fibromyalgia, a conceptually similar pain condition, suggests that the vast majority of these patients had unresolved emotional conflicts, ranging from sexual and physical abuse to sibling rivalries and perceived pressure to be perfect from parents.

Many women with chronic urogenital pain also experience psychological disorders and symptoms. Clemens, Brown, and Calhoun (2008) found that, compared to healthy controls, women with chronic urologic pain conditions were more likely to have various mental health problems: 14% met criteria for panic disorder, 11% had depressive symptoms, and 5% met criteria for major depressive disorder. At the multidisciplinary women's urology center where this dissertation was conducted, we found that among 180 women with chronic urogenital pain, 28% had elevated anxiety scores and 24% had elevated depression scores (Tomakowsky et al., 2013). Overall, this suggests that chronic urogenital pain is not only physically painful and debilitating, but is made more complicated and distressing by histories of trauma, abuse, and psychological conflict, as well as difficulties with current depression and anxiety. However, typical treatment approaches for these conditions focus primarily on medication, physical therapy, or in some instances, surgery. These data suggest that assessment of mental health is indicated, although this does not occur regularly, and it is unclear how effective current assessments are at capturing mental health and its relationship to physical health.

In most cases, assessment of mental health is being done through brief self-report measures, which may be inaccurate or under-representative. Further, these kinds of measures do not often assess the source of the depression or anxiety, such as abuse history or more nuanced psychological problems, such as emotional or interpersonal conflict, which is particularly important for women with chronic urogenital pain. Howard (2003) has recommended a

comprehensive evaluation for women with chronic pelvic pain that can be extended to other chronic urogenital pain conditions, which includes a psychosocial history aimed specifically at depression, pain severity, and abuse history. However, Howard (2003) notes that it can be difficult to incorporate psychologists into medical clinics and the result is often that patients get referred to psychologists off-site, which substantially decreases the likelihood that they will follow through with the referral. This may occur for a variety of reasons, including the patient being unable to afford mental health care, reluctance to accept a referral out of fear or shame, or out of anger at the referring physician for implying that the patient is "crazy" or their symptoms are "all in their head." Further, the assessment process described by Howard (2003) takes a biomedical approach, focusing on gathering information about the patient, but it does not provide the patient with any information or awareness of their health and takes a more authoritarian approach. Howard does not, however, provide any outcome data on the effectiveness of this interview technique. It is imperative that improved methods of assessing these important mental health factors (i.e., depression, anxiety, abuse history, and emotional and interpersonal conflict) be incorporated into the overall assessment of patient's history in order to increase the patient's awareness of the connection between their mental and physical health and to provide proper treatments, both physical and psychological. Although there is scarce literature on this topic, the theories and literature that do exist can provide guidance on how to best accomplish this task.

Behavioral Theories

Perhaps the most parsimonious way to create awareness is through the use of behavioral assessment. Goldfried (1982) describes the goal of behavioral assessment as assessing overt or objective behaviors directly and in the moment. This can be done through asking patients to identify the trigger or antecedent, environmental and internal factors, and consequences of the

behavior in question. Though this process originated from a behavioral perspective, it is widely used across many theoretical orientations and practices. More recently, Flor and Turk (2011) have indicated the importance of behavioral assessments for patients with chronic pain. Compared to the biomedical model most often implemented in primary care settings, a biopsychosocial model suggests assessment of psychophysiological, psychosocial, behavioral, and somatic factors related to illness, in addition to assessment of the physical symptoms (Flor & Turk, 2011). Additionally, behavioral assessments can serve as a way to motivate patients to see how they can change their pain (or health behavior) through tracking their symptoms and learning about the triggers and consequents to the pain, rather than relying on their physicians to tell them how to manage their pain (Flor & Turk, 2011). Often, for pain patients in general, and women with chronic urogenital pain in particular, this awareness and motivation can be enhanced through having the patient complete a series of diaries for which they are asked to track times they have pain or symptoms in conjunction with details about the intensity and duration of the pain, as well as what they were doing, thinking, and feeling before and after the pain. Flor and Turk suggest that by doing this, patients and their providers can have a continuous understanding of the patient's symptoms, the triggers and consequences, and see how links and patterns develop over time, indicating that behavioral assessment can increase awareness of the mind-body link. A similar technique is frequently used in cognitive-behavioral therapy for patients with depression. These patients are asked to track their mood, thoughts, and behaviors over a series of days as a mechanism to build awareness of the pattern of their symptoms. Additionally, research shows that when patients are asked to simply track and log certain behaviors, such as food consumption, they begin to change their behavior, perhaps because they are becoming more aware of that behavior which may have previously been occurring

subconsciously or automatically (Kumanyika et al., 2009). Regardless of the method, the idea remains the same: when patients track their symptoms and the conditions surrounding those symptoms, a greater awareness of health can be cultivated, and this awareness may lead to behavior change and symptom improvement.

Cognitive/Motivational Theories

The Transtheoretical Model was created by Prochaska and colleagues as a way to explain differential success with psychotherapy that encompassed a variety of theoretical approaches and behavior changes. Prochaska and colleagues (2008) sought to empirically identify the processes through which successful behavior change occurs (e.g., consciousness raising, contingency management). Additionally, they identified six stages of change that describe the way in which behavior change occurs, often in a non-linear manner, over time. In the first stage, precontemplation, an individual does not believe they have a problem or behavior to change and has no intention of making changes. In the second stage, contemplation, the individual is planning on making changes but is still aware of the many cons to changing. In preparation, the third stage, the patient plans to make changes soon and has made a significant change toward a new behavior. In the action stage, the patient has begun making actual behavior changes. In the fifth stage, maintenance, the patient has sustained significant changes and is now focusing on preventing relapse to old behaviors. In the final stage, termination, the patient is no longer tempted by the old behavior and has complete confidence in their ability to sustain these changes. Prochaska also elaborates to describe these stages as occurring in a spiral pattern, with patients slipping back to former stages and progressing back up through later stages, rather than a linear pattern, in which patients master one stage and continue to the next, without any regression to former stages. In addition to the stages of change, Prochaska describes processes of change, or

the mechanisms through which changes can occur and at which stage these processes are likely to be effective. There are ten processes of change that have been supported by research, which are divided into cognitive or experiential processes and behavioral processes. The cognitive/experiential processes are best suited for patients in the early stages of change, whereas the behavioral processes are best suited for the later stages of change. Because it is likely that the majority of patients in the current study will be in the early stages of change (i.e., precontemplation and contemplation) regarding links between their stress, psychological conflicts, and health, this dissertation will focus on the cognitive/experiential processes.

The cognitive/experiential processes involve: 1) consciousness raising, 2) dramatic relief, 3) self-reevaluation, 4) environmental reevaluation, and 5) self-liberation. Of particular importance to this dissertation is consciousness raising, which is aimed at increasing awareness about the causes and implications of behaviors, and dramatic relief, which is aimed at increasing emotional experiences or responses. This theory suggests that matching client's motivation or readiness to make changes to the processes of change can improve outcomes, and that it will be of particular importance to incorporate cognitive and experiential processes for patients in the early stages of change, such as women with chronic urogenital pain. Specifically, assessments should incorporate increasing awareness of the causes and effects of behavior, and focus on increasing emotional experiences.

In a similar vein, motivational interviewing (MI) is a therapeutic approach created to enhance the motivation of patients who need to make behavior changes and is defined as "a collaborative, person-centered form of guiding to elicit and strengthen motivation for change" (Miller & Rose, 2009, p. 137). Miller and colleagues believe that most patients have a desire to change their maladaptive or unhealthy behavior, but many clinicians do not address patients in a

manner that allows the patient to change. Often clinicians place their own values for change onto the patient, instead of eliciting the patient's values and goals. If patients can be approached through their own value system, motivation for change will be enhanced. The MI approach creates this environment for change through being collaborative, not authoritarian, which is what is most commonly seen in medical settings, enhancing and advocating for the patient's ability and desire to create change, and allowing the patient to remain autonomous (Rollnick et al., 2008). This approach suggests that when assessments are conducted in medical settings, clinicians, including physicians and mental health professionals, need to ask and understand what each individual patient's motivation to change is and listen to them, rather than using a purely didactic approach. If patients with chronic urogenital pain can be empowered to use their resources, they will feel more like they have collaborated in their care, and therefore, more likely to be open to change. Indeed, this therapeutic technique has shown success in motivating behavior change for a variety of health behaviors, including substance abuse, problem drinking, tobacco use, and overeating (Rollnick et al., 2008). A meta-analysis indicated that MI led to significant improvements in 74% of the studies examined and had a moderate effect size compared to placebo treatment (Burke, Arkowitz, & Menchola, 2003).

Emotion-Focused Theories

In addition to behavioral, cognitive, and motivational theories, other approaches focus on exploring and activating emotion or affect as a mechanism to increase awareness about the dynamic relationship between psychological conflict, physiologic arousal, and physical symptoms. Wickramasekera (1988) proposed one such method to create awareness and a shift in beliefs about the link between physical and mental health. This method, he termed the Trojan Horse procedure, creatively uses an interview and physiological measurement to show the links

between thoughts, beliefs, and emotions on biologic/physiologic functions, links that Wickramasekera posits are critical in providing appropriate treatment for patients with somatic complaints. This link is created by interviewing patient about their lives, including their symptoms, emotions, and difficult life experiences or conflicts, while their physiologic responses, such as heart rate, blood pressure, temperature, and skin conductance, are monitored. The interviewer points out when there are shifts in physiologic reactivity and asks the patient what they believe is occurring, thereby allowing the patient to come to the realization that their biologic functioning is related to their thoughts and emotions on their own. The interview also allows the interviewer to help to shape the patient's beliefs and ends with the interviewer giving the patient feedback about what the interviewer objectively observed during the session. Additionally, this procedure highlights the importance of including patients as collaborators in their health care, rather than as passive onlookers. Wickramasekera (1988) found that 83% of patients who went through this psychophysiological interview returned to continue psychotherapy, suggesting that the interview was effective in increasing awareness of a mind-body link and motivating patients to change.

Intensive short-term psychodynamic interviews have also been hypothesized as a way to increase emotional awareness and thereby decrease physical symptoms. This approach involves examining unconscious motivation, difficulty describing and expressing emotion, and broadly, making unconscious phenomena conscious by activating the underlying conflicts the individual is facing (Abbass et al., 2009). Abbass proposes that when emotions become too intense or conflicted for an individual, anxiety, as well as defenses against that anxiety, (e.g., suppression or avoidance of emotion) occur. Suppressing and avoiding emotions can lead to an exacerbation of physical symptoms, and ongoing avoidance serves to maintain those symptoms, which is a

common process in pain patients. Often, the suppression of emotions and process of somatization are unconscious to patients and, therefore, it is important to help patients develop a greater understanding and experiencing of their emotions. If women with chronic urogenital pain can experience their genuine emotions, somatization and physical symptoms can be decreased.

Abbass (2009) suggests that this can be done through an emotion-focused diagnostic interview. This interview should actively explore emotions and the emotional reactions created from discussing emotionally challenging or difficult situations, particularly ones that have generated symptoms in the past. During the interview, the patient's defenses should be acknowledged and discussed, and the interviewer should make attempts to disrupt the defenses. The interviewer should also monitor and manage the patient's anxiety as needed through a cognitive approach, allowing the patient to intellectualize, until he or she is able to continue. Lastly, the interview should end with a summary of the findings and an indication of what the patient's core conflicts are and how these are currently impacting their health.

Overall, emotion-focused interviews and therapy have shown effectiveness in improving outcomes for patients for somatic disorders. Broadly, research indicates that short-term psychodynamic therapy, a form of emotion-focused intervention, is effective, efficacious, and reduces health-care utilization (Abbass, 2005; Abbass, 2003). One review examined seven studies that examined the cost-effectiveness of short-term psychodynamic therapy and found that in the majority of studies, patients who engaged in short-term-psychodynamic therapy, compared to treatment as usual or medication controls, had a significant decrease in utilization of physician and hospital services, medication use, and health care costs (Abbass, 2003). Averaging results from these studies indicated that $1,537 per patient per year would be saved. A meta-analysis examined 14 studies that used short-term psychodynamic therapy for somatic conditions (Abbass

et al., 2009). This meta-analysis revealed that 91% of studies found benefits of short-term psychodynamic therapy on primary health outcomes. Additionally, the majority of studies reported improvements on social-occupational functioning and reductions in psychological symptoms and health care utilization. Results from this meta-analysis found that short-term psychodynamic therapy had moderate effect sizes (d = 0.58-0.78 SD) compared to control groups in the short-term (less than 3 months). Additionally, the most powerful effects from short-term psychodynamic therapies were found in studies that were emotion-focused compared to insight-focused. These findings are supported by a meta-analysis on the effects of short-term psychodynamic therapy on depression (Cuijpers, de Maat, Abbass, de Jonghe, & Dekker, 2010). This meta-analysis indicated that there was a large improvement (effect size = 1.34, 95% CI 1.13 – 1.55) on depressive symptoms compared to controls, and that these benefits were maintained one year after treatment. In general, short-term psychodynamic therapy was comparable to other therapies, though in the short-term, other therapies showed more improvements; however, differences in improvement were not maintained at 3-month follow-up. Similarly, a randomized controlled trial was conducted on 211 patients with somatic pain disorders, comparing the effects of short-term interpersonal psychodynamic therapy to enhanced medical treatment (Sattel et al., 2012). Results from this study indicated that at 9-month follow-up, physical quality of life and somatization improved; however, no significant differences were seen in depression, health anxiety, or health care utilization. Research suggests that using this therapy for patients with personality and Axis I disorders led to significant improvements on outcomes (McCullough & Magill, 2009). Lumley and colleagues (2008) conducted an emotional exposure pilot intervention for patients with fibromyalgia. This study found a moderate to large impact on stress symptoms, symptom impact, and emotional distress, and a small to moderate effect on pain and

disability at 3-month follow-up. These studies suggest that emotional exposure therapies can be effective in improving psychological and physical health.

Similar to the short-term psychodynamic therapy, affect phobia therapy, created by McCullough and colleagues (2009), is another approach that highlights the role of affect and emotional conflict in psychological and physical symptoms. From this perspective, most if not all problems can be related back to conflicts individuals have with particular emotions, or a fear of a particular emotion. As with other fears or phobias, the suggested intervention is exposure and response prevention to the feared or avoided emotion. To do this, patients are encouraged to access their core, typically feared or avoided, emotion without using their defenses. This is facilitated by the therapist who is guiding the patient towards exposure and eventually expression of the core emotion, regulating inhibitory affects, and eventually helping the patient to have a restructured, healthier sense of themselves and others.

Written emotional disclosure (WED) is another technique aimed at allowing patients to express, rather than suppress, their deepest, genuine emotions about trauma or conflicts without censorship. Pennebaker, who pioneered this technique, believed it would be effective in reducing physical symptoms based on the idea that when individuals suppress their emotions, they are more likely to develop somatic complaints, and that by using a technique that allows them expression of emotions, physical relief can occur. Generally, this technique is beneficial. Meta-analyses indicate significant, albeit small ($d = 0.19$) improvements on physical and psychological well-being for patients (Frisina, Borod, & Lepore, 2004). Norman and colleagues (2004) examined the effects of WED in 48 women with chronic pelvic pain. Results from this study indicated that WED decreased pain severity at 2-month follow-up. Additionally, this study found that WED, compared to control writing, led to benefits in women who were elevated on

ambivalence over emotional expression, catastrophizing, or negative affectivity. These results suggest that expression of emotions and trauma is of particular importance for women with chronic urogenital pain, who are more likely to have emotionality and/or conflicts over emotional experience.

Summary and Goals of Current Study

Chronic urogenital pain is a common but debilitating set of conditions that has a significant impact on the health care system and leads to substantial suffering. Additionally, it is not uncommon for women with chronic urogenital pain to have experienced physical or sexual abuse, particularly in childhood, and to have current symptoms of depression and anxiety. In our clinical work with a conceptually similar patient population, we have discovered that a majority of patients with fibromyalgia report experiencing some form of psychological conflict, ranging from sexual abuse to parental pressure to be perfect, and we suspect this will be similar for women with chronic urogenital pain, though no such data yet exists on the frequency of more nuanced psychological conflict. There is a clear need to adequately address both the physical and psychological history of women with these conditions to ensure proper interventions, and to reduce the burden on the health care system. However, current evaluations in primary care and specialty centers most frequently involve self-report questionnaires of depression and anxiety, which do not assess important psychological conflicts. When medical or clinical interviews are conducted, they tend to be focused on gathering data from the patient, rarely focus on life stress, and often do not provide feedback for the patient of the patterns between their physical health and life stress. Despite these shortcomings, an abundance of theories and research have pointed to the importance of increasing an awareness of the link between stress, psychological conflict, and physical symptoms. These theories suggest that this awareness might be most effectively

cultivated through use of emotion-focused experiential techniques. It is imperative that improved techniques for evaluating and assessing life history and its relationship to physical health be empirically examined for women with chronic urogenital pain.

The goal of the current study was to test the efficacy of a novel life-stress interview for women with chronic urogenital pain in a multidisciplinary, tertiary care setting. The life-stress interview was aimed at increasing awareness of the link between stress, emotions, and physical symptoms through a collaborative, emotion-focused, and experiential evaluation of physical and psychological symptoms, stressors, and interpersonal conflicts. A secondary goal of the study was to improve health and functioning in patients who engaged in the enhanced life-stress interview.

Women with chronic urogenital pain were recruited from the Women's Urology Center at Beaumont Hospital. Participants reported on their pain, physical functioning, urogenital symptoms, psychological symptoms, attitudes, and motivation. After this initial evaluation, they were randomized to the life-stress interview immediately or to a wait-list control condition. The life-stress interview consisted of one, 90-minute session with a trained interviewer. Participants were asked to complete a follow-up evaluation 6 weeks after randomization. Participants in the wait-list control condition were offered the opportunity to engage in the life-stress interview after they completed their 6-week follow-up evaluation.

Hypotheses

It was hypothesized that women in the life-stress interview group would demonstrate greater improvements in awareness and motivation than those in the wait-list control condition. Specifically, it was hypothesized that patients would increase their awareness of links between their mind and physical health, as demonstrated by an increase in attribution of their physical

condition to somatic causes, rather than to physical or environmental causes and an increase in stage of change. Additionally, it was hypothesized that women in the life-stress interview group will have greater improvements in physical health, psychological symptoms, and interpersonal functioning than those in the wait-list control condition. Specifically, it was expected that there would be improvements on pain severity, pain interference with functioning, pelvic floor dysfunction symptoms, depression, anxiety, interpersonal sensitivity, and maladaptive patterns of interpersonal functioning in women who engaged in the life-stress interview compared to the control condition at follow-up.

CHAPTER 2 METHODS

Participants

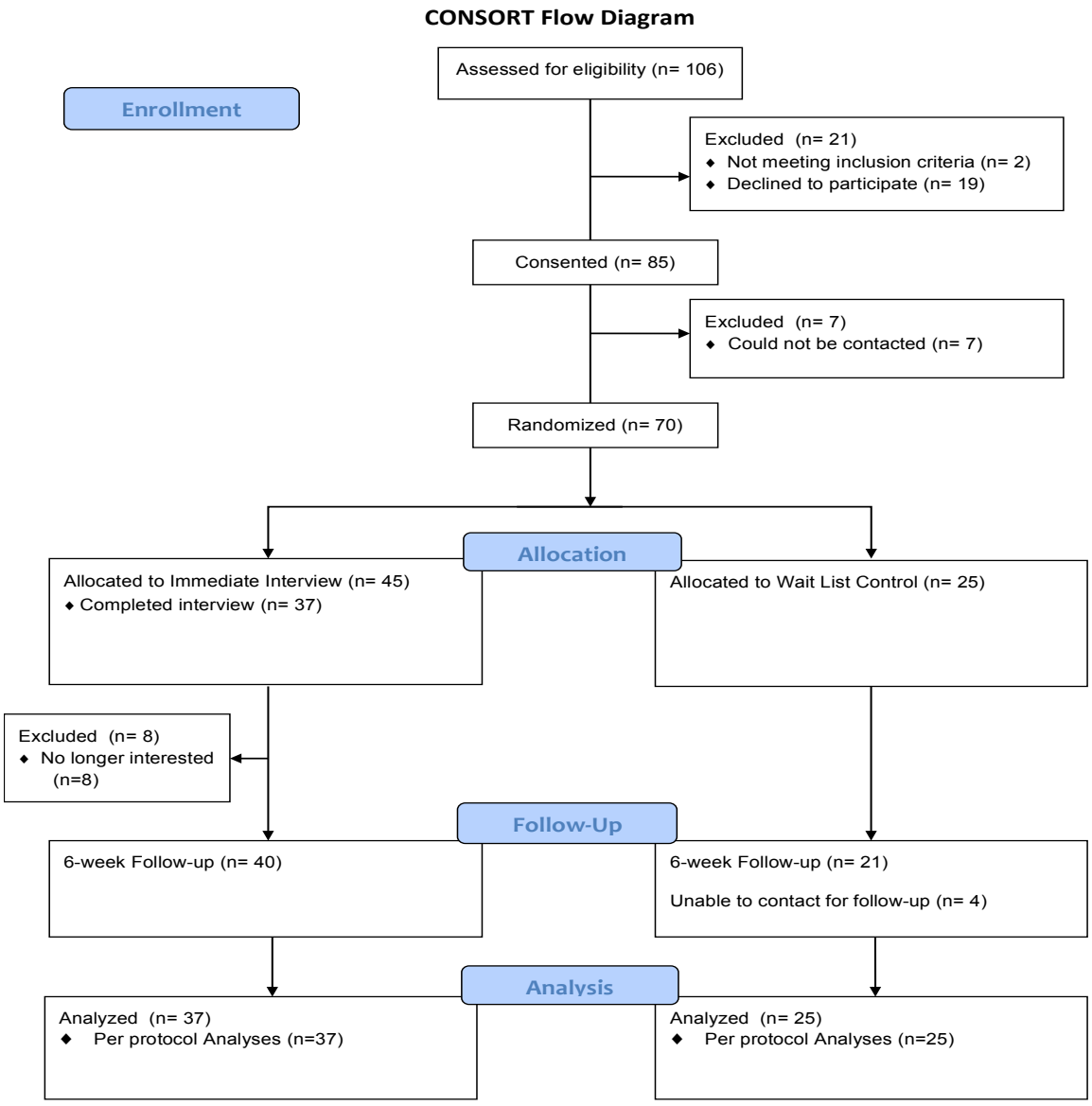
Participants were women with chronic urogenital pain conditions who were recruited from a multidisciplinary women's urology center in metro Detroit. Participants had a primary urogenital pain (e.g., dyspareunia, vaginitis) disorder. These disorders are often characterized by chronic pain (lasting more than 6 months), pressure, and discomfort related to sexual, bladder, or gynecologic dysfunction, and are highly co-morbid with somatic disorders, such as irritable bowel syndrome, migraine headaches, and fibromyalgia. Though women with other solely urologic conditions (e.g., overactive bladder, incontinence) are treated at the women's urology center, only patients with chronic urogenital pain conditions were sought for the current study. For a comprehensive list of disorders that were included, see Appendix A. Patients were also included if they were 18 to 80 years old. Patients were excluded if they: a) had a current psychotic disorder; b) were unable to communicate in English; c) were unable to read; d) were cognitively impaired or had dementia; or e) were been deemed too psychiatrically unstable by their clinician at the Women's Urology Center to meaningfully complete this study. Participants were allowed to engage in the study regardless of current medication use and engagement in other treatment.

Of the 106 patients who were screened for eligibility, only 85 remained eligible after screening, and all 85 consented to participate. However, only 73 patients completed the baseline measures, and 70 of these were randomized; the other three could not be contacted. Of the 70 randomized participants, 45 participants (64.2%) were randomized to receive the life-stress interview, but 8 of them did not receive the interview: four were unable to be contacted to schedule their interview, three reported they no longer had time to participate, and one reported

that her health declined too much to participate. All 37 participants who engaged in the interview completed their follow-up measures, and the eight participants who were unable to schedule their interview did not complete follow-up measures. Thus, 37 participants completed the interview and follow-up measures, and constitute the interview group for analyses. The eight participants randomized to this condition but who did not receive the interview were excluded from analyses, consistent with the approach used by Thorn et al. (2011).

Further, 25 participants were randomized into the wait-list control group, and 21 of those completed follow-up measures; four control participants were unable to be contacted to complete their follow-up evaluation. Thus, a total sample of 62 participants received the assigned condition: 37 participants who completed their interview and the 25 control participants. This sample of 62 participants who completed the study per protocol (i.e., completed the intervention they were assigned) was the analyzed sample.

Figure 1. CONSORT Diagram



These 62 participants had an average age of 45 years old, and the majority (58.9%) were married or in a committed relationship. Additionally, participants were primarily Caucasian and

were relatively highly educated. See Table 1 below for complete description of demographic information for the overall sample and each group.

Table 1. Demographics and Medical Background by Whole Sample and Treatment Group

	Whole Sample	Interview Group	Wait List Control
Age	46.03 (15.10)	44.89 (15.34)	47.72 (14.88)
Duration of physical symptoms (years)	7.93 (9.66)	8.33 (10.29)	7.36 (8.83)
Race			
Caucasian	87.1%	91.9%	80.0%
African American	8.1%	5.4%	12.0%
Other	4.8%	2.7%	8.0%
Education			
Less than HS	1.6%	0.0%	4.0%
HS or GED	11.3%	13.5%	8.0%
Some college	30.6%	35.1%	24.0%
Bachelor's degree	29.0%	21.6%	40.0%
Master's degree	24.2%	24.3%	24.0%
Doctoral degree	3.2%	5.4%	0.0%
Relationship status			
Married or committed relationship	58.1%	56.7%	60.0%
Widowed	6.5%	8.1%	4.0%
Divorced	16.1%	13.5%	20.0%
Never married	17.7%	21.6%	12.0%
Currently in psychotherapy	33.9%	32.4%	36.0%
Previous experience in psychotherapy	80.6%	73%	92.0%

Procedure

Clinicians (i.e., physicians and nurse practitioners) at the urology center identified potential participants by the patient's diagnosis during a routine visit to the clinic and notified the researchers of patients who had a qualifying diagnosis and who indicated that they were potentially interested in participating in a research study. Patients were then contacted immediately after their appointment with their clinician for a brief screening to determine eligibility. During this brief screening, potential participants were given an overview of the study and were screened for inclusion and exclusion criteria. If they remain interested and eligible, written informed consent was obtained, and a link to complete the baseline measures online was provided, which allowed participants to complete questionnaires at home at a time that was convenient for them. Paper versions of questionnaires, to be completed at home after their initial screening, were available for participants without access to a computer or Internet. Participants were instructed to complete their questionnaires as soon as possible after their screening and were informed that they could not continue with the study until these measures were completed and submitted to the research team either electronically or through the mail (stamped and addressed envelopes were provided to participants completing the measures on paper). Both the interviewer and participant were blinded to condition until baseline measures were completed.

After the baseline health and psychological functioning measures were completed and submitted, participants were contacted via telephone to be randomized and to schedule their next appointment. To ensure that there was a large enough sample size in the life-stress interview condition for later secondary analyses of predictors and interview content, two-thirds of participants were randomized to receive the life-stress interview, and one-third of participants were randomized to the wait-list control condition. To control for interviewer effects,

randomization was stratified by interviewer. Those who were randomized to the life-stress interview returned to the women's urology center for their 90-minute interview as soon as possible after completing baseline measures and were scheduled at that time to complete their follow-up. Participants in the wait-list control condition were scheduled to complete their follow-up evaluation and were given the opportunity to receive the life-stress interview after completion of follow-up measures. Follow-up measures of health and psychological functioning were given 6 weeks after randomization for both conditions. Participants were given $10 compensation for completion of each of the two evaluations (baseline and follow-up), were given $20 for completion of the interview, for a possible total of $40. After completion of the study, all participants were given a list of mental health referrals and recommendations.

Life-Stress Interview

The life-stress interview was a one-session interview lasting 90 minutes conducted by a trained interviewer (i.e., clinical psychology graduate students). All interviews were audiorecorded for supervision purposes and so the fidelity and content of the interviews could be analyzed at a later date. A licensed clinical psychologist supervised all interviews.

The goal of the interview was to provide participants with a greater awareness of their physical and psychological health throughout their lives and the role that stress has played in their health. The interview consisted of two phases. The first phase involved obtaining a life history from the participants, which included a detailed examination of their health and symptoms, stressful life situations, and core conflicts. Participants were asked to describe any significant medical conditions they had experienced throughout their lives, including major illnesses, surgeries, and chronic diseases. They were also asked to describe all stressful or traumatic life experiences, including a general description of the nature of their childhood,

relationship with important people in their lives, including parents, siblings, and romantic partners. Participants were specifically asked if they had experienced specific traumatic experiences, including neglect, physical and/or sexual abuse. Lastly, participants described specific core conflicts they might have struggled with, such as being perfectionistic, feeling misunderstood, etc. Throughout this portion of the interview, links between physical health and stress were pointed out to the participant. The second phase was an experiential component during which participants were assessed on their ability to express two important relational emotions or needs: 1) empowerment and 2) connection/caring. Participants were asked to demonstrate how to show strength and connection/caring through their tone of voice, posture, and language towards key people in their lives with whom they had a conflictual relationship, as identified in the initial phase of the interview. The interviewer coached participants to make their expression of these key relational emotions as complete and genuine as possible. For example, participants were often asked to increase the volume of their voice and to use stronger language and body postures.

Throughout the interview, participants were asked to rate their physical symptoms on a scale of 0 (“no symptoms) to 10 (“severe symptoms”). At the end of the interview, participants were asked what they discovered about themselves in the interview, were given a summary of their strengths and weaknesses, and areas they may wish to continue to work on. They were also provided a handout describing the relationship between emotional suppression and health, and ways to express their emotions privately and within important relationships as a mechanism to improve their physical symptoms. See Appendix C for the handout provided to participants.

Immediately before and after the interview, participants completed brief measures of mood and physical symptoms. Reactions to the interview were assessed immediately after the

interview was completed. Data collected from these measures (and immediately physical symptom ratings) were not analyzed for this dissertation. For the complete life-stress interview protocol refer to Appendix B.

Wait-list Control

Six weeks after participants were randomized into the wait-list control condition they completed follow-up measures. At this time, they were offered the opportunity to engage in the life-stress interview. Those who were interested received the interview shortly after completion of follow-up measures.

Measures

Attitudinal Outcomes

General Attribution of Symptoms. This was measured using the Symptom Interpretation Questionnaire (SIQ; Robbins & Kirmayer, 1991). The SIQ consists of 14-item measuring the degree to which participants attribute their symptoms in three areas: psychological ("if I had a prolonged headache, I would probably think it was because, I am emotionally upset"), somatic ("if I had a prolonged headache, I would probably think it was because there is something wrong with my muscles, nerves or brain"), or normal/environmental ("if I had a prolonged headache, I would probably think it was because a loud noise, bright light or something else had irritated me"). At baseline this scale had adequate reliability for each subscale (Cronbach's alpha psychological α = .88, somatic α = .71, normalizing α = .84). At follow-up this scale had adequate to good reliability for each subscale (psychological α = .91, somatic α = .74, normalizing α = .86). The SIQ yielded scores on three subscales corresponding to the three areas of attribution. All items were rated on a scale of 0 (not at all) to 3 (a great deal) and were

averaged to yield subscale scores. Higher scores on each subscale indicated higher levels of symptom attribution in that area.

Specific Symptom Attribution. This was assessed using a 2-item measure created specifically for this study. This scale (e.g., "If I have elevated symptoms related to my urogenital pain/gynecologic condition, I would think it was due to: a) my emotions, b) my biologic make-up, c) something in my environment") examined the degree to which patients attributed their specific urogenital pain symptoms to psychological, somatic, or biological factors. Patients provided scores for each of those three areas, ranging from 0 (not at all) to 3 (a great deal). Items were averaged on their respective subscale, with higher scores indicating a higher level of symptom attribution in that area. This scale had poor reliability for each subscale at baseline (psychological $\alpha = .55$, somatic $\alpha = .55$, normalizing $\alpha = .58$) and at follow-up (psychological $\alpha = .66$, somatic $\alpha = .71$, normalizing $\alpha = .37$).

Stages of Change. This was assessed with an adapted version of the Change Assessment Questionnaire, which was reduced to 9 items for the current study to reduce patient burden (CAQ; McConnaughy, Prochaska, & Velicer, 1983). Items from this questionnaire align with the stages of change as proposed by Prochaska's transtheoretical stage of change model. The CAQ yielded scores on 4 subscales: precontemplation ("The best thing I can do is find a doctor who can figure out how to get rid of my symptoms once and for all"), contemplation ("Even if my symptoms doesn't go away, I am ready to start changing how I deal with it"), action ("I am testing out some stress management techniques to manage my symptoms better"), and maintenance ("I use what I have learned to help keep my symptoms under control"). Items were rated on a scale of 0 (strongly disagree) to 4 (strongly agree) and then averaged, with higher scores on each of the subscales indicate higher levels of that stage of change. In the current study,

the CAQ had poor reliability at baseline (precontemplation α = .41, contemplation α = .53, action α = .32) and reliability ranging from poor to acceptable at follow-up (precontemplation α = .48, contemplation α = .74, action α = 77).

Symptom and Health Outcomes

Pain severity. Pain severity was assessed using the pain severity subscale of the Brief Pain Inventory (BPI; Cleeland & Ryan, 1994). The BPI-pain severity subscale consists of 4-items measuring the degree of pain experienced by participants ("Please rate your pain by circling the one number that best describes your pain at its *worst* in the last week"). Items were rated on a scale of 0 (no pain) to 10 (pain as bad as you can imagine) and averaged, with higher scores indicating more pain. The BPI pain severity scale had good reliability at both baseline (α = .87) and follow-up (α = .90).

Physical Dysfunction. Physical dysfunction was assessed using the physical dysfunction subscale of the BPI (Cleeland & Ryan, 1994). The BPI-physical dysfunction severity subscale is a 7-item subscale measuring the degree to which physical interference with functioning is experienced by participants ("Rate how much your pain has interfered with your mobility (ability to get around)"). Items were rated on a scale of 0 (does not interfere) to 10 (completely interferes), and averaged, with higher scores indicating worse physical functioning and more physical interference with functioning. For the current study, the physical interference with functioning subscale had good reliability at both baseline (α = .94) and follow-up (α = .94).

Somatic Symptoms. This was measured using the 15-item Patient Health Questionnaire (PHQ-15; Kroeneke, Spitzer, & Williams, 2002). This questionnaire examined how much individuals are bothered by somatic symptoms (e.g., headaches, dizziness, shortness of breath) and rated on a scale of 0 (not bothered at all) to 2 (bothered a lot). Items were averaged to yield a

total score, in which higher scores indicated more somatic symptom distress. The PHQ-15 had good reliability (baseline α = .82, follow-up α = .80).

Psychological Symptoms. This was assessed with the widely used Brief Symptom Inventory (BSI; Derogatis, 1993). The BSI consists of 53-items that measure a variety of psychological symptoms experienced over the past 7 days. To reduce patient burden and focus on constructs relevant to this population, only the depression, anxiety, and interpersonal sensitivity subscales were given, resulting in a shortened BSI that was 16 items. Each item was rated on a scale of 0 (not at all) to 4 (severely) and averaged, with higher scores indicating more psychological distress. At baseline, reliability was good for each subscale (depression α = .91, anxiety α = .85, interpersonal sensitivity α = .84) and total score (α = .94). Similarly, at follow-up, reliability was good for each subscale (depression α = .90, anxiety α = .81, interpersonal sensitivity α =.88) and total score (α = .94).

Pelvic Floor Symptoms. This was measured using the Pelvic Floor Distress Inventory-Short Form-20 (PFDI-SF-20; Ubersax, Wyman, Shumaker, McClish, Fantl, and the Continence Program for Women Research Group, 1995). The PFDI-SF-20 is a 20-item measure examining the degree to which pelvic floor disorder symptoms have been bothersome. All items were rated on a scale of 0 (not at all) to 3 (quite a bit) and yielded a total and 3 subscale scores: pelvic organ prolapse distress ("Do you experience heaviness or dullness in the lower abdomen?"), colo-rectal-anal distress ("Do you feel you need to strain too hard to have a bowel movement?"), and urinary distress ("Do you usually experience urine leakage related to laughing, coughing, or sneezing?"). Items were totaled, and higher scores on each subscale and total score indicated more symptom distress. For the current study, reliability ranged from poor to good at baseline

(POPDI α = .64, CRADI α = .76, UDI α = .73, total α = .85). At follow-up, reliability ranged from fair to good (POPDI α = .73, CRADI α = .81, UDI α = .78, total α = .85).

Global Health Improvement. This was assessed with the Global Response Assessment (GRA), which is a 1-item measure examining symptom improvement and overall change in symptoms since the beginning of the study. This measure was completed at follow-up only. The item was rated on a scale of -3 (markedly worse) to +3 (markedly improved). Higher scores on this scale mean that symptoms have improved and negative scores on this scale indicate symptoms have worsened from the beginning of the study.

Interpersonal Difficulties. This was measured using the Inventory of Interpersonal Problems-32 (IIP-32; Barkham, Hardy, & Startup, 1996). This questionnaire examined the difficulties that many people face in their relationships. The IIP-32 consists of 32 items rated on a scale of 0 (not at all) to 4 (extremely) and yields scores on 4 bipolar subscales that map onto the 4 basic interpersonal competencies identified by Gilbert (1989): 1) competition – hard to be assertive vs. too aggressive; 2) socializing – hard to be sociable vs. too open; 3) nurturance – hard to be supportive vs. too caring; 4) independence – hard to be involved vs. too dependent. Items are averaged on their respective subscale. Higher scores indicate more difficulty in that area of interpersonal functioning. In the present study, scales had reliability ranging from fair to good at baseline (dominance/control α = .78, vindictive/self-centered α = .91, cold/distant α = .87, socially inhibited α = .88, nonassertive α = .82, overly accommodating α = .70, self-sacrificing α = .78, intrusive/needy α = .80) and at follow-up (dominance/control α = .71, vindictive/self-centered α = .87, cold/distant α = .77, socially inhibited α = .88, nonassertive α = .88, overly accommodating α = .78, self-sacrificing α = .83, intrusive/needy α = .79).

Satisfaction with Life. This was measured using the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SWLS is a 5-item measure of global life satisfaction ("The conditions of my life are excellent"). Items were rated using a 7-point scale and are rated from 1 (strongly disagree) to 7 (strongly agree) and were averaged to produce a total score, with higher scores indicating higher levels of global life satisfaction. In the present study, this scale had good reliability ($\alpha = .87$) at baseline and at follow-up ($\alpha = .88$).

Statistical Analyses

Data was entered in to SPSS version 22. All data was checked for accuracy and was examined for outlier variables and skewness. Though skewness was found on some variables, there was no differences in outcomes of analyses between transformed and original variables, thus only original values were used in analyses. To ensure randomization worked properly, demographics and baseline measures were compared between the two groups using t-tests. Analyses were conducted using the last value carried forward method for any data that was missing at follow-up.

To test the hypothesis that there would be differences between the life-stress interview group and the wait-list control group at 6-week follow-up, ANCOVAs, controlling for the baseline level of the outcome measure as well as baseline depression (discussed below), were conducted on each outcome measure. A significant group effect indicated significant mean differences after engaging in the interview between groups from baseline to follow-up. When a significant group effect was found, estimated marginal means were examined to understand the relationship. Paired-samples t-tests were also conducted to understand how changes occurred within each group. Additionally, effect sizes of both within and between conditions were conducted using Cohen's d. For the within group analysis this was done using the following

calculation: (mean of follow-up – mean of baseline)/ pooled SD of change scores. For the between group analysis, effect size will be conducted with the following calculation: (mean change life-stress interview – mean change control group)/ pooled SD of change scores. Partial eta squared was also examined as an indicator of effect size after controlling for depression in the ANCOVA output. For Cohen's d an effect size of 0.2 will be considered small, 0.5 will be considered moderate, and 0.8 will be considered large. For partial eta squared an effect size of .01 will be considered small, .06 will be considered moderate, and .14 will be considered large (Cohen, 1988).

CHAPTER 3 RESULTS

Attrition analyses

Participants who provided follow-up data (n=58) were compared to participants who did not provide follow-up data (n=4) on demographics and baseline measures to determine if differences existed between study completers and non-completers. Lower scores on precontemplation stage of change were observed in participants who did *not* provide follow-up data (M = 2.17, SD = 0.43) compared to participants who did provide follow-up data (M = 3.09, SD = 0.67; $t(60) = -2.71$, $p = .05$)). No other differences were observed on other baseline measures and demographic variables between participants who provided follow-up data and those who did not.

Baseline differences between groups

To test the success of randomization to create equivalent groups, baseline and demographic variables were examined between the immediate interview and wait list control (WLC) groups. There were no significant differences on demographic variables between groups. However, significantly higher levels of somatic symptoms ($t(60) = -2.08$, $p = .04$), pain interference with functioning ($t(60) = -2.88$, $p = .006$), depression ($t(60) = -2.87$, $p = .006$), interpersonal sensitivity ($t(60) = -2.59$, $p = .01$), and global psychological symptoms ($t(60) = -2.68$, $p = .01$) were observed in the WLC group compared to immediate interview group and significantly lower precontemplation of change was observed in the WLC compared to the immediate interview group ($t(60) = 2.20$, $p = .03$).

Higher baseline depression was positively correlated with higher baseline somatic symptoms ($r = .32$, $p = .01$), pain interference ($r = .51$, $p < .001$), interpersonal sensitivity ($r = .75$, $p < .001$), and global psychological symptoms ($r = .91$, $p < .001$); however, it was not significantly correlated with precontemplation of change ($r = -.08$, $p = .52$). Furthermore,

baseline depression had somewhat larger differences between conditions than the other variables noted here. This suggests that the differences in various baseline measures between the two conditions might have been due to differences in depression. Indeed, after controlling for baseline depression, the differences between the two conditions on the other variables were eliminated, with the exception of precontemplation of change, which remained significantly greater in the interview group. Thus, baseline depression was controlled in subsequent analyses that compared conditions (in addition to the baseline level of the outcome measure), to adjust for this and other baseline differences between conditions.

Acceptability of intervention

Generally, this emotionally evocative intervention was well-received and valued by participants; 75% of participants who engaged in the interview reported learning new skills and 69.5% reported an increased understanding of their medical problems as a result of the life-stress interview. Additionally, therapists perceived the vast majority of these patients as motivated to participate (91.9%). However, not all participants were able to fully engage in the experiential component or were able to fully access their difficult emotional experiences. Therapists noted many participants had at least moderate difficulty expressing emotions (81%) and developing new insights (72.9%).

Main effects

Attitudinal outcomes

Differences between participants who received the life-stress interview and those who were in the WLC condition were examined to test the hypothesis that participants who received the life-stress interview compared to the WLC condition would have greater improvements in

awareness in mind-body connection. Support for this hypothesis was limited. See Table 2 for complete ANCOVA main effects of attitudinal outcomes.

On a measure of specific attribution of pelvic symptoms, there was a significant group difference on environmental attribution of symptoms at 6-week follow-up ($F(1, 54)=4.54$, $p=.04$), such that participants in the Interview group were significantly less likely to attribute their pelvic symptoms to environmental causes than the WLC group. Attribution of pelvic symptoms to environmental causes lowered non-significantly within the Interview group, but became slightly higher within the WLC group. No between group differences were observed on somatic attributions of pelvic symptoms ($F(1, 55) = 1.11$, $p = .30$), and both conditions lowered significantly in this attribution: Interview group, ($t(34) = 2.28$, $p = .03$) and WLC group ($t(23) = 3.39$, $p = .003$). Further, there were no significant differences between groups on attribution of pelvic symptoms to psychological ($F(1, 55) = 0.03$, $p = .86$) causes and no significant within group effects.

On a measure of general symptom attribution, no significant differences between the Interview and WLC group were observed on attribution of symptoms to somatic causes at 6-week follow-up ($F(1,57) = 2.52$, $p = .12$); however, somatic attribution significantly lowered within the Interview group ($t(35) = 2.22$, $p = .03$), but there was no change within the WLC group ($t(24) = 0.10$, $p = .92$). No significant differences were observed on environmental causes on the general measure of symptom attribution between groups ($F(1, 58) = 0.04$, $p = .85$) or within groups from baseline to follow-up. Similarly, no significant differences were observed on psychological causes on the general measure of symptom attribution between groups ($F(1,58) = 0.37$, $p = .54$) or within groups at follow-up.

Further, there were no significant group differences between Interview and WLC groups on stages of change, including precontemplation ($F(1, 58) = 0.77$, $p = .39$), contemplation ($F(1, 58) = 1.22$, $p = .27$), action ($F(1, 58) = 0.13$, $p = .72$), and maintenance ($F(1, 58) = 2.38$, $p = .12$). However, as hypothesized, precontemplation lowered marginally within the Interview group from baseline to follow-up ($t(36) = 1.87$, $p = .07$).

Table 2. *ANCOVA Main Effects controlling for depression, Within and Between-Condition Comparisons of Attitudinal Outcomes from Baseline to 6-week Follow-up*

	Interview Group (n = 37)		Waitlist Control (n = 25)		Group Effect			
	M (SD) *Adj M (SE)*	d_{within}	*M (SD)* *Adj M (SE)*	d_{within}	*F*	*p*	$d_{between}$	*Partial eta squared*
Specific SIQ Environmental								
Baseline	0.87 (0.79)		1.04 (0.86)					
Follow-up	0.65 (0.61)	-0.27	1.06 (0.73)	0.04			-0.37	
Follow-up Adj	0.70 (0.10)		1.04 (0.12)		4.54	.04		.08
Specific SIQ Somatic								
Baseline	0.97 (0.82)		1.31 (0.84)					
Follow-up	0.66 (0.79)	-0.38*	0.78 (0.82)	-0.74**			0.31	
Follow-up Adj	0.80 (0.11)		0.60 (0.14)		1.11	.30		.02
Specific SIQ Psychological								
Baseline	0.90 (0.77)		1.04 (0.78)					
Follow-up	0.96 (0.80)	0.08	1.08(0.70)	0.05			0.08	
Follow-up Adj	0.99 (0.12)		1.02 (0.14)		0.03	.86		.001
SIQ Somatic								
Baseline	0.85 (0.52)		0.93 (0.33)					
Follow-up	0.65 (0.38)	-0.39*	0.92 (0.46)	-0.02			-0.39	
Follow-up Adj	0.70 (0.07)		0.87 (0.08)		2.52	.12		.04
SIQ Environmental								
Baseline	1.36 (0.54)		1.46 (0.56)					
Follow-up	1.23 (0.52)	-0.26	1.38 (0.65)	-0.14			-0.15	
Follow-up Adj	1.30 (0.08)		1.28 (0.09)		0.04	.85		.001
SIQ Psychological								

Baseline	1.14 (0.65)		1.18 (0.58)				
Follow-up	1.06 (0.61)	-0.18	1.25 (0.67)	0.16		-0.41	
Follow-up Adj	1.10 (0.07)		1.17 (0.09)		0.37	.54	.01
CAQ Pre-contemplation							
Baseline	3.18 (0.60)		2.80 (0.76)				
Follow-up	3.00 (0.67)	-0.31†	2.88 (0.69)	0.14		-0.53	
Follow-up Adj	2.90 (0.09)		3.03 (0.11)		0.77	.39	.01
CAQ Contemplation							
Baseline	3.68 (0.74)		3.91 (0.60)				
Follow-up	3.59 (0.92)	-0.18	4.01 (0.68)	0.16		-0.37	
Follow-up Adj	3.87 (0.10)		3.87 (0.13)		1.22	.27	.02
CAQ Action							
Baseline	3.76 (0.79)		4.12 (0.56)				
Follow-up	3.95 (0.79)	0.23	4.24 (0.82)	0.16		0.06	
Follow-up Adj	4.03 (0.12)		4.11 (0.15)		0.13	.72	.002
CAQ Maintenance							
Baseline	4.05 (0.52)		4.12 (0.83)				
Follow-up	4.03 (0.80)	-0.03	4.36 (0.76)	0.27		-0.31	
Follow-up Adj	4.03 (0.13)		4.36 (0.16)		2.38	.13	.04

d-within is the within-condition effect size ((follow-up M – baseline M) / SD of the pooled change scores)).
d-between is the between-condition effect size ((Interview follow-up *M* – baseline *M*) – (control follow-up *M* – baseline *M*)) / *SD* of the pooled change scores.
* $p < .05$, ** $p < .01$, *** $p < .001$

Symptom and health outcomes

Generally, improvements in physical symptoms, but not psychological or interpersonal symptoms, were observed in the life-stress interview group compared to WLC. See Table 3 for complete ANCOVA main effects of symptom and health outcomes.

In general, significant differences on physical symptoms were found on the Interview group compared to WLC group at 6-week follow-up. Specifically, pain severity was significantly lower in the Interview group compared to the WLC group at follow-up ($F(1, 58) = 4.52$, $p = .04$). Within the Interview group, pain severity was marginally lower at follow-up ($t(36) = 1.81$, $p = .08$), whereas the WLC group showed higher, though non-significantly, pain severity ($t(24) = -$

1.34, p = .19). No significant differences were found between groups on BPI pain interference with functioning (F(1,58) = 1.02, p = .62), nor were there significant within-group changes.

Significant group differences were observed on pelvic floor dysfunction symptom distress at follow-up. Specifically, overall pelvic floor symptom distress became significantly lower (F(1, 57) = 5.51, p = .02) in the Interview group compared to WLC group at 6-week follow-up. Overall pelvic floor symptom distress significantly lowered within the Interview group, (t(36) = 2.93, p = .006) compared to a very small, non-significant lessening in the WLC group, (t(23) = 0.60, p = .56). Significantly less colo-rectal-anal symptom distress (F(1, 57) = 7.04, p = .01) were observed in the Interview group compared to WLC group at follow-up. Specifically, less colo-rectal-anal symptom distress was observed within the Interview group (t(36) = 2.27 p =.03), but did not change in the WLC group (t(23) = -0.37, p = .71). Further, marginally less pelvic-organ prolapse symptom distress (F(1, 57) = 3.69, p = .06,) were observed in the Interview group compared to WLC group at follow-up. Specifically, marginally less pelvic organ prolapse symptom distress was observed within the Interview group (t(36) = 1.90, p = .07) and no changes were observed within the WLC group (t(23) = -0.26, p = .80). No significant group differences were observed on urologic symptom distress (F(1, 57) = 1.35, p = .25); however, marginally less urologic symptom distress was observed within the Interview group (t(36) = 1.99, p = .06) and slightly lessened within the WLC group, though not significantly (t(23) = 1.48, p =.15). No significant differences were found between or within groups on the PHQ-15, a measure of, somatic symptoms (F(1, 58) = 1.96, p = .17), or between groups on the global assessment of change ratings (F(1, 41) = 0.02, p = .89) at follow-up.

Further, on measures of psychological functioning, there were no significant group differences on depression (F(1, 59) = 0.20, p = .66). In fact, the trend was opposite of that

hypothesized. Symptoms of depression lessened marginally within the WLC group at follow-up ($t(24) = 1.80$, $p = .09$), but did not change within the Interview group ($t(36) = -0.26$, $p = .79$). There were no significant differences between or within groups on anxiety ($F(1, 58) = 0.30$, $p = .59$), interpersonal sensitivity ($F(1, 58) = 0.16$, $p = .69$), or global psychological distress ($F(1, 58) = 0.01$, $p = .91$). Further, there were no significant differences between or within groups on satisfaction with life ($F(1, 57) = 1.47$, $p = .23$).

Significant differences between groups were observed on some measures of interpersonal functioning. Interpersonal dominance/control was marginally higher in the Interview group compared to WLC group at follow-up ($F(1, 56) = 2.84$, $p = .097$). Specifically, within the WLC group marginally less interpersonal dominance/control was observed ($t(1, 36) = 1.99$, $p = .06$), whereas there was a slightly higher, though non-significant, degree of this interpersonal style within the Interview group. Interpersonal vindictive/self-centeredness was moderately lower in the Interview group compared to WLC group at follow-up ($F(1, 56) = 3.56$, $p = .06$). Specifically, vindictive/self-centeredness was marginally lower within the Interview group ($t(36) = 1.88$, $p = .07$), but did not change within the WLC group ($t(23) = 0.08$, $p = .94$). Significant differences were not observed between groups on interpersonal social inhibition; however, there was significantly lower social inhibition within the Interview group ($t(36) = 2.52$, $p = .02$) and no change within the WLC condition. ($t(23) = 0.32$, $p = .75$). No other significant differences between or within groups were observed on additional measures of interpersonal functioning between groups at follow-up.

Table 3. *ANCOVA Main Effects controlling for depression, Within and Between-Condition Comparisons of Symptom and Health Outcomes from Baseline to 6-week Follow-up*

	Interview Group (n = 37)		Waitlist Control (n = 25)		Group Effect			
	M (SD) *Adj M (SE)*	d_{within}	*M (SD)* *Adj M (SE)*	d_{within}	*F*	*p*	$d_{between}$	*Partial eta squared*
Pain Severity								
Baseline	3.87 (2.03)		4. 24 (1.65)					
Follow-up	3.30 (2.24)	-0.29†	4.51 (1.61)	0.15			-0.56	
Follow-up Adj	3.42 (0.26)		4.33 (0.32)		4.52	.04		.07
Pain Interference with Functioning								
Baseline	3.85 (2.47)		5.92 (3.19)					
Follow-up	3.31 (2.50)	-0.26	4.84 (2.72)	-0.45			0.08	
Follow-up Adj	3.81 (0.34)		4.01 (0.42)		1.02	.62		.004
PFDI-20 Total								
Baseline	78.29 (47.31)		110.96 (50.01)					
Follow-up	61.27 (44.95)	-0.33**	104.71 (55.74)	-0.10			-0.92	
Follow-up Adj	70.35 (5.63)		92.89 (7.22)		5.51	.02		.09
PFDI-20 CRADI								
Baseline	19.78 (17.85)		26.86 (20.80)					
Follow-up	14.44 (16.56)	-0.31*	26.93 (23.95)	0.00			-0.44	
Follow-up Adj	15.69 (2.34)		26.07 (2.95)		7.04	.01		.11
PFDI-20 POPDI								
Baseline	23.96 (18.57)		37.29 (19.78)					
Follow-up	19.37 (16.32)	-0.26†	36.31 (23.58)	-0.05			-0.33	
Follow-up Adj	24.02 (2.27)		31.37 (2.87)		3.69	.06		.06
PFDI-20 UDI								
Baseline	34.55 (23.72)		46.81 (21.57)					
Follow-up	27.46 (24.19)	-0.33†	46.81 (22.18)	-0.20			-0.13	
Follow-up Adj	30.22 (3.27)		36.60 (4.14)		1.35	.25		.02
Somatic Symptoms								
Baseline	0.66 (0.44)		0.88 (0.35)					
Follow-up	0.58 (0.33)	-0.23	0.82 (0.34)	-0.28			-0.10	
Follow-up Adj	0.63 (0.04)		0.73 (0.05)		1.96	.03		.03
Global Response Attribution								
Follow-up	4.83 (1.23)	n/a	4.71 (1.33)	n/a				
Follow-up Adj	4.81 (0.23)		4.75 (.34)		.02	.89		.000
BSI Depression								

Baseline	0.61 (0.76)		1.27 (1.05)				
Follow-up	0.64 (0.73)	0.04	1.04 (1.03)	-0.36†		0.51	
Follow-up Adj	0.83 (0.10)		0.75 (0.12)		0.20	.66	.003
BSI Anxiety							
Baseline	0.79 (0.77)		1.18(0.87)				
Follow-up	0.72 (0.67)	-0.15	1.05 (0.87)	-0.20		0.11	
Follow-up Adj	.82 (.09)		0.90 (0.11)		0.30	.59	.01
BSI Interpersonal Sensitivity							
Baseline	0.65 (0.78)		1.26 (1.07)				
Follow-up	0.66 (0.88)	0.02	1.09 (1.01)	-0.24		0.32	
Follow-up Adj	0.86 (0.10)		0.80 (0.13)		0.16	.69	.003
BSI Global Symptoms							
Baseline	0.69 (0.71)		1.23 (0.89)				
Follow-up	0.67 (0.68)	-0.04	1.06 (0.84)	-0.33		0.40	
Follow-up Adj	0.83 (0.08)		0.82 (0.10)		0.01	.91	.000
Satisfaction with Life							
Baseline	4.40 (1.44)		3.65 (1.50)				
Follow-up	4.53 (1.52)	0.18	3.59 (1.39)	-0.07		0.10	
Follow-up Adj	4.25 (0.13)		3.99 (0.16)		1.47	.23	.03
IIP-32 Dominance/Control							
Baseline	1.83 (2.35)		3.13 (3.13)				
Follow-up	2.02 (2.32)	0.16	2.24 (2.71)	-0.43†		0.61	
Follow-up Adj	2.46 (0.25)		1.77 (0.31)		2.84	.10	.05
IIP-32 Vindictive/Self-centered							
Baseline	2.16 (3.18)		3.50 (5.12)				
Follow-up	1.16 (1.42)	-0.31†	3.28 (4.90)	-0.04		0.00	
Follow-up Adj	1.44 (0.51)		3.01 (0.63)		3.56	.06	.06
IIP-32 Socially Inhibited							
Baseline	4.51 (4.43)		5.21 (4.43)				
Follow-up	3.41 (3.60)	-0.41*	5.12 (4.92)	-0.02		-0.19	
Follow-up Adj	3.80 (0.51)		4.31 (0.65)		0.36	.55	.01
IIP-32 Cold/Distant							
Baseline	2.51 (3.36)		3.96 (4.52)				
Follow-up	1.89 (2.2.39)	-0.20	3.24 (3.67)	-0.18		0.13	
Follow-up Adj	2.21 (0.43)		2.88 (0.54)		0.88	.35	.02
IIP-32 Overly Accommodating							
Baseline	6.16 (3.70)		6.13 (3.85)				
Follow-up	6.14 (4.65)	-0.01	6.00 (3.73)	-0.04		0.07	

Follow-up Adj	6.32 (0.52)		5.63 (0.65)		0.66	.42		.01
IIP-32 Self-sacrificing								
Baseline	7.58 (4.00)		8.00 (4.40)					
Follow-up	7.19 (4.38)	-0.15	8.04 (4.42)	0.02			-0.16	
Follow-up Adj	7.50 (0.43)		7.83 (0.54)		0.22	.64		.004
IIP-32 Intrusive/Needy								
Baseline	4.41 (3.89)		5.00 (3.98)					
Follow-up	3.76 (3.29)	-0.22	3.88 (3.50)	-0.43†			0.27	
Follow-up Adj	4.00 (0.41)		3.54 (0.51)		0.46	.50		.01
IIP-32 Nonassertive								
Baseline	6.03 (4.00)		4.79 (4.08)					
Follow-up	5.27 (4.09)	-0.25	5.56 (4.80)	0.14			-0.37	
Follow-up Adj	5.43 (0.61)		5.17 (0.78)		0.07	.80		.001

d-within is the within-condition effect size ((follow-up M – baseline M) / SD of the pooled change scores)).
d-between is the between-condition effect size ((Interview follow-up *M* – baseline *M*) – (control follow-up *M* – baseline *M*)) / *SD* of the pooled change scores.
* $p < .05$, ** $p < .01$, *** $p < .001$

CHAPTER 4 DISCUSSION

Chronic urogenital pain conditions are a common set of disorders that frequently involve physical dysfunction and pain as well as higher occurrences of anxiety, depression, emotional conflicts, trauma, and abuse. Current medical assessment of these patients typically does not evaluate these highly co-morbid psychological problems, and when they do, they are typically done using brief self-reported measures of depression and anxiety. The current assessment practice largely ignores the important role of trauma, stress, and emotions in health, nor does it provide patients feedback for change. Thus, the goal of the current study was to examine the effects of an intensive, emotion-focused, life-stress interview compared to a wait-list control condition on improving motivation to change and awareness about mind-body connections and to improve physical health, psychological symptoms, and interpersonal functioning. Findings from the current study suggest that a one-session, intensive, emotion-focused life-stress interview can improve pain and pelvic floor symptom distress at 6-week follow-up. Limited, but potential support was found for improvements in interpersonal functioning as a result of the life-stress interview; however, the interview had no effect on psychological symptoms, mind-body awareness, and motivation to change.

Physical health outcomes

Results for the hypothesis that participants who engaged in the life-stress interview would show greater improvements in physical health symptoms than participants in the control group was, generally, supported. Participants who engaged in the life-stress interview had less pain and pelvic floor symptom distress compared to the control group at follow-up. However, engaging in the life-stress interview had no effect on physical functioning or general health improvement.

The findings that pain severity and pelvic floor symptoms improved in the Interview group compared to the control group is consistent with the findings from a meta-analysis conducted by Abbass and colleagues (2009), which found that the majority of short-term psychodynamic therapy interventions, which included a minimum of five sessions, for patients with somatic illnesses, improved health outcomes. Similar results were also found in an uncontrolled trial of an emotional awareness and expression therapy for patients with chronic pain, which found a decrease in pain and pain interference with functioning after a consultation and 4 sessions of group therapy (Burger et al., 2016). The current study found similar effects to these studies, but, impressively, in a shorter period of time, suggesting that improvements in physical symptoms can be achieved using a brief, one-session emotion-focused interview and that longer-term interventions for patients with chronic urogenital pain are not necessarily required. Currently, cognitive-behavioral therapies are held as the "gold standard" treatment and are often viewed as the only evidence-based treatment available for patients with medically unexplained illnesses; however, results from the current study, in conjunction with support from previous research, indicate that emotion-focused and experientially-based assessment and interventions may be of equal importance, particularly for patients with chronic urogenital pain and other chronic pain or medically unexplained illnesses. Further, within the current medical climate there are increasing demands on behavioral health providers to create improvements for patients within a relatively brief period of time, and patients with medically unexplained medical conditions, such as chronic urogenital pain, are notoriously difficult to treat often create increased frustration for both patients and medical providers. Implementation of a relatively brief, one-session intensive interview that both provides information to inform treatment and gives

patients immediate skills for improvements as a standard protocol could prove to be invaluable within medical settings.

It is also important to understand possible underlying mechanisms of change in the life-stress interview. Findings from the current study are consistent with Sarno's (1998) theory on somatization or TMS (which he calls, "tension myositis syndrome"). This theory suggests that "unexpressed rage" manifests itself as physical symptoms, and serve as an avoidance or distraction from the rage. Sarno suggests that to alleviate the physical symptoms, the individual needs to acknowledge and gain insight into the role of rage and its roots in possible childhood trauma or other emotional conflicts. Similarly, Davanloo, in his development of intensive short-term psychodynamic therapy, proposed that "resistant" patients often have unconscious emotional experiences that need to be unblocked, allowing them to consciously experience difficult emotions. Through the process of unblocking these emotions, he witnessed an improvement in the most difficult of his cases; this was substantiated empirically with in studies showing improvements for patients in psychological and physical health after engaging in intensive short-term psychodynamic therapy (Abbass, Town, & Driessen, 2013). Both of these theories propose that a major mechanism of change is making unconscious or subconscious processes conscious (Abbass, Kisely, & Kroenke, 2009), which was also one of the primary goals of the current life-stress interview. Throughout each part of the interview, the patient was challenged to acknowledge emotional experiences and their links to health that they had not previously considered. This was done by gently pointing out links between stress and health during the first part of the interview and more directly challenging patients to activate and express emotional experiences, even when that was difficult for the patient, during the second part of the interview. This is perhaps best illustrated in a case example: a 42-year old woman

with 7 year history of pelvic floor dysfunction and a 15+ year history of migraine and irritable bowel syndrome (IBS) described growing up in a home with an alcoholic father who was emotionally abusive and a mother who spent most of her time trying to control her husband's drinking, which resulted in neglecting the emotional needs of the patient and her siblings. As a result of growing up in this environment, the patient reported that she was eager to please others and to move out of her house as soon as she could; thus, she got married when she was 19 years old. Her husband was emotionally abusive and became sexually abusive toward her over time. Further, this patient had significant depression and a suicide attempt 3 years prior to participation in the current study. During her life-stress interview, she expressed that she had not previously made the links between her difficult childhood and her health, but thought that it explained a great deal about her. She also shared for the first time in her life that her husband was sexually abusing her and, though it was difficult to do, found significant relief in expressing both her love and care towards him and her significant, and appropriate, anger over the abuse. After engaging in the life-stress interview, the patient shared with her physical therapist at the Women's Urology Center that this new way of thinking and accessing her emotions was life changing for her, creating a significant impact in her life more than any other prior therapy experience had been able to provide. This is an ideal example of how this interview can work and captures the spirit of the interview; when we can help patients to gain insight and express emotions in a novel way we can have a powerful impact on their physical health.

In addition to the psychodynamic mechanisms at play in the life-stress interview, attachment theory can provide further understanding of how the interview might improve physical health, particularly because of the high frequency of difficult and traumatic childhoods experienced by our participants. Attachment theory proposes that early childhood experiences

with caregivers become internalized and impact how individuals interact in future relationships. Individuals can be categorized into four main attachment styles: secure, resulting in being comfortable depending on and being cared for by others, and comfort with independence; dismissive, resulting in becoming overly reliant on one's self rather than others; preoccupied, resulting in being dependent on others for emotional support; and fearful, resulting in approach-avoidance in relationships (Ciechanowski, Walker, Katon, & Russo, 2002). Attachment style is related to numerous aspects of functioning, including somatization and health care utilization (Ciechanowski et al., 2002). Specifically, Ciechanowski and colleagues (2002) found that within a women's primary care clinic, patients with fearful or preoccupied attachment styles reported more physical symptoms than patients with a secure attachment style, and patients who had a preoccupied attachment style had the highest level of health care utilization. Not surprisingly, insecure attachment styles (i.e., dismissive, preoccupied, or fearful) and childhood trauma are related to increased somatization, particularly in women (Waldinger, Schulz, Barsky, & Ahern, 2006). Although attachment style was not directly measured in the current study, the high levels of trauma, neglect, and emotional conflict from childhood that the majority of our patients reported suggest that it is likely that many of them have an insecure attachment style. Our life-stress interview allowed patients to gain insight and understanding into the impact of their childhood stressors on their current health and psychological functioning. Further, many of our patients chose to use the experiential exercise in the second part of the interview to address an emotional conflict they were still harboring toward one of their parents. For example, one woman shared that she grew up in a home where she was explicitly told to not show her emotions, particularly anger, and that while she knew her parents loved her, they rarely expressed that to her. Her parents were also very religious, causing the patient to be reluctant to

share many of her experiences with her parents for fear of being judged. In her twenties, the patient had an abortion that she still felt conflicted over nearly a decade afterward and which she was never able to tell anyone in her family. As a result, her adult relationships were characterized by defensiveness and a fear of intimacy. Through the experiential exercise, the patient identified a part of her that was grieving for the loss of child she aborted, but also that this loss was still unresolved because she felt such conflict about how her parents would view her if they knew her secret. After expressing her core emotions about wanting to be loved unconditionally by her parents, the patient was able to more fully grieve her loss and begin the process of forgiving herself. It is likely that if the interview had focused only on her abortion and not the attachment issues, she would not have felt as much relief. This process of addressing and beginning to resolve issues from childhood, often for the first time, may have provided our patients with a corrective experience related to attachment that ultimately allowed for the resolution of physical symptoms.

Interpersonal functioning

In general, engaging in the life-stress interview had only minimal impact on interpersonal functioning. Interpersonal domineering/control slightly increased in the interview group and decreased in the control group. Conversely, interpersonal vindictive/self-centeredness decreased in the interview group and did not change in the control group. Similarly, interpersonal social inhibition decreased within the interview group and did not change in the control group.

Higher scores on interpersonal domineering/control on the IIP-32 suggest a difficulty with a self-held belief that one is too controlling or manipulative and has difficulty with relaxing control within relationships (Barkham, Hardy, & Startup, 1996). Interestingly, individuals in the interview group had slight increases on their self-report of domineering/control, whereas

individuals in the control group saw decreases in these tendencies. One possible explanation is that the life-stress interview encouraged individuals to be assertive and powerful where needed in their important relationships, thereby encouraging participants to take a more active, or controlling, stance in their relationships, rather than a passive engagement. The interview may have provided a buffering effect against becoming passively engaged in relationships, which may have contributed to the improvements in physical health observed within the Interview group.

Interpersonal vindictive/self-centeredness was also significantly different between groups, but in contrast to the previous finding, vindictive/self-centeredness marginally decreased within the Interview group and did not change with the control group. Higher scores on vindictive/self-centeredness on the IIP-32 suggest that patients are quick to express anger and irritability, are highly focused on revenge, frequently fight with others, and generally express and experience anger in a way that is maladaptive within relationships (Barkham et al., 1996). Thus, decreases on vindictive/self-centeredness as a result of the life-stress interview might indicate that the intervention was effective in helping participants to express their anger within interpersonal relationships in a healthy, balanced way, rather than in explosive or inappropriate ways. This is consistent with what participants would often report – that they tended to suppress their anger until they found themselves having inappropriate outbursts towards important people in their lives, thereby reinforcing the idea that anger is an unsafe emotion to express. One of the goals of interview was to teach participants to express, rather than suppress, important emotions, especially anger, toward the correct person (e.g., toward a loved one, rather than a stranger) in a more balanced, healthy manner, which typically involved balancing multiple emotional experiences. For example, we would often coach patients to express both their love/care and

anger/assertiveness within their relationships, rather than just focusing on the expression of anger, which was often the patient's default mode. It appears that the life-stress interview was at least somewhat effective in helping individuals reach this goal.

Additionally, a significant decrease in social inhibition was observed within the Interview group, though this was not significantly different from the control group. Higher scores on social inhibition suggest that the patient has difficulty with feeling anxious or embarrassed around others (Barkham, Hardy, & Startup, 1996). Thus, decreases in social inhibition within the Interview group might indicate that as a result of learning healthy, genuine emotional expression participants began feeling more comfortable and relaxed within their interpersonal relationships.

Taken together, it appears that engaging in the life-stress interview allowed patients to become more powerful, while also providing them with skills to express their anger in healthy, balanced ways, allowing them to feel more relaxed and comfortable within their important relationships. This is a promising finding because it provides confirmatory evidence that the life-stress interview works in the manner proposed: increasing genuine emotional expression leads to improvements in interpersonal functioning.

Interestingly, the life-stress interview did not appear to impact other important areas of interpersonal functioning, such as a lack of assertiveness and being overly accommodating that are often observed within women with chronic urogenital pain conditions. It might be the case that some of these interpersonal styles are more ingrained, similar to the chronic nature of psychological conflicts and disorders seen in these patients, making it more difficult for a brief intervention to create change within a short period of time.

Psychological health outcomes

In contrast to the findings on physical health symptoms and interpersonal functioning, engaging in the life-stress interview did not affect psychological symptoms, including global psychological symptoms, depression, anxiety, and interpersonal sensitivity compared to those in the control group. Surprisingly, opposite to my hypothesis, symptoms of depression improved within the control condition, whereas no changes in depression were observed within the interview group.

Although previous research has shown that emotion-focused interventions can be effective in improving psychological health for patients with medically unexplained illnesses (Abbass et al., 2009; Burger et al., 2016), the current study did not support this hypothesis. In contrast to the hypothesis, a meta-analysis on the effects of written emotional disclosure in patients with medical or psychiatric disorders showed that this emotion-focused intervention lead to improvements physical health outcomes, but only a small, non-significant effect on psychological outcomes, congruent with the current study (Frisina et al., 2004). This suggests that is unclear if and how emotional disclosure-type interviews can improve psychological health. It is possible that psychological disorders, particularly within women with chronic urogenital pain conditions, are more chronic and long-standing than their physical complaints, thus making these symptoms harder to shift. This may have been more evident within the Women's Urology Center where this study was conducted, which typically sees patients who have more significant medical and psychological histories. This follows the proposed mechanism of change in somatic illnesses, which suggest that the course of these physical illnesses begins with difficult psychological experiences (e.g., trauma, interpersonal conflict, neglect) that then manifest as or exacerbate physical symptoms (Sarno, 1998). If this is the case, it might be more likely that the newer symptom (i.e., pain or physical dysfunction) will be more likely to improve first, whereas

the more chronic and deeply rooted symptom (i.e., psychological symptoms, emotional conflict) might take longer to improve.

Further, it is possible that an emotionally evocative intervention, such as our life-stress interview, initially causes an increase in emotional stress, which may need a longer follow-up time period to improve. This was reflected in the lack of change in anxiety, depression, interpersonal sensitivity, and global psychological symptom symptoms within the Interview group compared to the improvement in depressive symptoms observed over time in the control group. Similar results have been found in studies of written emotional disclosure. Gillis and colleagues (2006) examined the effects of written emotional disclosure with patients with fibromyalgia and found that immediate increases in negative affect were observed after the intervention, but were not maintained long-term. Likewise, in a small study of written emotional disclosure for trauma survivors, higher negative affectivity was observed five weeks after disclosure compared to a control group (Gidron, Peri, Connolly, & Shalev, 1996).

Attitudinal outcomes

Support for the hypothesis that participants in the Interview group would increase their awareness of links between stress, trauma, and physical health was limited. The only significant difference found between groups was on environmental attribution of symptoms. Specifically, participants in the Interview group were less likely to attribute their pelvic symptoms to environmental (e.g., a loud noise, bright light) causes than participants in the control group. It is somewhat unclear why only environmental attribution of pelvic symptoms changed. One possible explanation is that during the first part of the life-stress interview, links between physical health and stressors or significant life experiences were highlighted to help individuals see potential mind-body links. Thus, is it possible that as a result of engaging in the interview

individuals became more aware that their physical symptoms were due to other causes, such as stress or difficult emotional experience, than external events or environmental cues. Further, the life-stress interview often primarily focused on pelvic symptoms rather than general physical health, resulting in patients changing their attributions of only their pelvic symptoms.

However, symptom attributions remained largely unchanged as a result of the life-stress interview. The Symptom Interpretation Questionnaire that was used to capture symptom attribution might be tapping into a stable, trait-like style of symptom attribution, rather than a changeable construct. Indeed, no studies were found in which symptom attribution as measured by the SIQ was changed as the result of an experiment or intervention. This suggests that this measure may not be sensitive to change, and was not appropriate to use in this study.

Additionally, the hypothesis that readiness to change mind-body views of health would change in the Interview group compared to the control group was not supported. No differences were found between groups on stage of change, and only a slight decrease in precontemplation was observed within the Interview group, suggesting that engaging in the life-stress interview was slightly effective in increasing motivation to change awareness regarding links between stress and health. It should be noted that in the current study the measure used to assess stages of change (CAQ) had poor reliability. Due to this poor reliability, any possible predictive validity of this measure is constrained, which may have contributed to the lack of findings. However, one possible explanation for the relative lack of findings is that change occurs in this intervention through a different mechanism than previously hypothesized (i.e., increase in awareness of mind-body connections will result in health and symptom improvement). It is possible that participants needed to experience an actual change in their behavior and symptoms before being willing to shift their views on the nature of their physical symptoms from medical to having a

psychological or stress component; perhaps a longer follow-up time period would have revealed a shift in attributions of physical symptoms.

Clinical observations

It is important to highlight some of the unique characteristics of women with chronic urogenital pain, particularly those who are treated in a tertiary care clinic, that were observed during this study, as well as some of the distinctive factors of the tertiary care clinic where this study was conducted, which likely influenced outcomes of the current study. First, in interviewing 37 women with chronic urogenital pain, we learned a great deal about the emotional conflicts and difficulties these women face. Certainly many of these women experienced a traumatic event, including sexual and physical abuse and neglect, but what was perhaps more unexpected was the level of perfectionism experienced by these women and extreme degree to which this personality style impacted their health and relationships. A common story heard from our patients was not one of abuse, as is often expected in women with urogenital pain conditions, but rather one of feeling neglected or not cared for as a child, leading to a sense of needing to do everything perfectly, which as adults most frequently showed up as a need to be the perfect spouse, mother, and/or employee, often as the expense of one's health. Relief was often found after helping participants to identify where their perfectionistic style began, how it impacted their health, validation of the benefits of this style, and helping participants to express the important emotions they frequently neglected in favor of being "perfect." This realization within the current study aligns with Sarno's (1998) proposition that in addition to trauma, certain personality styles, including perfectionism, are the result of suppressed rage, which often manifests as somatic physical complaints. It is not surprising, then, that women who have this personality style would find benefit from an emotion-focused, life-stress interview.

Further, tertiary care clinics, such as the Women's Urology Center, typically see patients with complex medical and psychosocial backgrounds and with conditions that cannot be well-managed with their primary care physicians. Compared to patients in a primary care clinic, these patients tend to have more significant and complex histories of trauma, abuse, and neglect, making it much more difficult to create change both psychologically and physically. In fact, only one or two patients in the study did not report at least one significant traumatic event or emotional conflict, and most of the stories participants shared began during childhood, making the impact of these traumas more ingrained. The degree of trauma, emotional conflict, and psychological disorders creates an additional challenge in treating these patients, which may also explain the somewhat limited findings in the current study, particularly the lack of improvement in psychological symptoms, mind-body awareness, and, to a lesser extent, interpersonal functioning. Greater improvements from a life-stress interview might be achieved in a different medical setting with less complex patients, such as within a primary care clinic, and this should be tested in future research.

There were also factors unique to the Women's Urology Clinic that likely impacted findings for the current study. The Women's Urology Center is a multidisciplinary clinic that provides patients with a wide array of care, from medical care to psychotherapy, physical therapy, massage, and reiki. Further, these patients are encouraged to engage in other forms of complementary medicine offered outside of the center, providing a holistic treatment approach. Though these women have higher severity of symptoms and psychosocial difficulties, they are given wonderful support and treatment, which likely helps them to improve more swiftly. In fact, the Women's Urology Center is one of the only medical settings in Metro Detroit that has physical therapists specifically trained in pelvic floor physical therapy and frequently has women

travelling across the state and country to receive services. Additionally, all patients at the Women's Urology Center engage in an in-depth assessment during their first appointment at the clinic during which their medical and psychological trauma histories are assessed. As a result of this wonderful, cutting-edge treatment approach, the women who participated in the current study were receiving many treatments, had already been exposed to the idea that their physical symptoms may be related to their stress and trauma, and had been given opportunities to disclose their psychological stress and trauma history in a supportive environment. Indeed, many of the women in study were either currently in psychotherapy or had been in psychotherapy in the past. Combined, these ongoing psychological processes may have minimized the effects of the life-stress interview in the current study.

It is also important to note that beyond the improvement in health outcomes observed in the current study, the life-stress interview was well received by both patients and medical providers. Patients who engaged in the interview frequently acknowledged that although addressing their trauma history and emotional conflicts was difficult, it was important work that was often not addressed at all or not addressed fully in previous therapy experiences. Often medical providers, psychologists, and patients tend to shy away from emotion or trauma-focused interventions for fear of opening "Pandora's Box" and not having the resources to fully address the issues at hand. Although this is an important phenomenon to consider, we found that patients were much more resilient in addressing their emotional difficulties than is often feared. In the current study, only one patient expressed a negative view of the brevity of the interview to the research team during her life-stress interview, whereas the vast majority of participants reported finding the interview helpful. During the life-stress interview this participant disclosed a complicated sexual abuse history that was directly related to her current physical health and her

relationship with her husband, which she had previously not shared with anyone in her life. She reported after the interview that discussing this was incredibly important to her health, but she was experiencing an increase in distress and wanted more follow-up to further address these issues (we provided this patient with resources to find a therapist and scheduled to see the Women's Urology Clinic's psychologist until she could establish care elsewhere). Generally, patients reported that they valued the opportunity to view their physical health in the context of their psychological and emotional difficulties, often citing appreciation for being viewed as a whole person rather than just an individual with a complex medical problem.

There was also great support for this study from the medical providers at the Women's Urology Center, suggesting that this type of interview is not only effective but feasible in this type of setting. The medical providers who aided in recruitment in the current study often expressed the great need that they saw for their patients for interventions that focused on their patient's emotional experience. Medical providers are quite limited in the time they can spend with their patients, averaging less than 10 minutes per patient, and often struggle with how to best help their patients that they know have psychosocial needs in addition to their medical complaints. Providing a standard life-stress interview could begin to lessen the burden from medical providers, while also providing them a more comprehensive view of their patient.

Limitations

Although the current study found promising results on the effectiveness of a novel, life-stress interview for women with chronic urogenital pain conditions, there are limitations to this study that should be noted. First, the life-stress interview was compared to a no-interview control group, thus the findings suggest that engaging in this novel intervention is better than no intervention at all; however, the current study cannot determine whether anything specific about

this interview led to the outcomes, rather than non-specific factors such as meeting with an interested interviewer. It will be necessary to compare the life-stress interview and more active control conditions or even alternative skills-based approaches to determine whether the stress and emotion focus of the current interview is responsible for the outcomes. Second, this study examined only women with chronic urogenital pain conditions, so the results may not be generalizable to other medical conditions. It is possible that patients with similar medically unexplained illnesses (e.g., fibromyalgia, irritable bowel syndrome, migraine headaches) could benefit from the life-stress interview, and future studies should examine this possibility. Further, patients with other medical conditions that do not tend to be co-morbid with trauma and/or emotional conflict (e.g., cancer) may not benefit as much from the life-stress interview.

Attrition is another important limitation of the current study. Of the 45 participants who were randomized into the interview group, eight participants were unable to complete the life-stress interview. The participants who were unable to engage in the life-stress interview reported that difficulty with scheduling and problems with their health prevented them from completing the interview, which reflects the complexity of the lives and health of women with chronic urogenital pain, as well as the perceived value of the interview and the emphasis on the voluntary nature of the study. As a result of these difficulties with attrition, only 62 participants could be analyzed, which was less than the 90 needed for adequate power according to power analyses. This impacted our statistical power and ability to find potential significant differences between groups. Furthermore, follow-up data was missing for some participants. Missing data in this study was replaced using a last value carried forward technique, which is only a rough estimate of participant's scores.

Further, this study found that participants who had lower scores on the precontemplation stage of change were less likely to engage in and complete the study. This suggests that patients who already acknowledged the importance of addressing their emotional stress related to their physical health are less likely to find an emotion-focused intervention useful. Patients who are in precontemplation and contemplation stages of change are more likely to benefit from interventions that increase their insight, and this life-stress interview might be more appropriate for these patients, whereas patients further along in stage of change might benefit more from, and be more interested in, interventions aimed at providing them specific tools or skills for change (Prochaska, Redding, & Evers, 2008). Despite randomly assigning participants to interview groups, participants in the control group had greater symptoms of depression at baseline than those in the interview group. As a result, depression was statistically controlled in analyses.

Additionally, the current study showed poor reliability on the CAQ, a measure of stage of change, suggesting that we may not have been able to correctly capture stage of change. Similarly, the SIQ, which was used to measure symptom attribution to environmental, psychological, or somatic causes, did not show differences between conditions or changes over time in either condition. Perhaps this measure should not have been selected for inclusion in this study, as it more likely measures trait-symptom attributions, rather than state-symptom attributions and, therefore, is not likely to change as the result of an intervention. Indeed, there is no "gold standard" measure of awareness of mind-body connections or motivation to improve awareness of links between stress and health, and the difficulty in capturing these construct by current measures may reflect the lack of findings on these outcomes. As we continue to see the effectiveness and efficiency of emotion-focused interventions for patients who have difficult and

complex medical conditions, it will become important to develop measures that accurately reflect these important constructs.

Future Directions

The current study is a promising start into the relatively unchartered territory of examining the effectiveness of directly targeting trauma, emotional conflict, and relational problems with patients in a medical setting as a means to create health improvements; yet, there is room to grow this body of research. First, future studies should seek to have a larger sample size than the current study to ensure adequate statistical power for detecting meaningful group differences and to ensure that findings are reliable. Future studies should also seek to examine whether emotion-focused interviews can improve outcomes above that of cognitive-behavioral, or other skills-based, interviews. Including longer follow-up time periods in these studies will also clarify how long gains are maintained from the life-stress interview and whether improvements in psychological symptoms and changes in mind-body awareness occur over time, particularly because these might take longer to improve.

It will also be important for future research to examine which patients benefit from the life-stress interview based on important background factors and characteristics. It might be the case that patients who are more newly diagnosed might benefit more from the life-stress interview than patients who have had a chronic urogenital pain condition for a longer time. It will also be interesting to determine if there are particular patient populations that would benefit the most from the life-stress interview by comparing the effects of the interview in other medically unexplained conditions, such as irritable bowel syndrome, migraine headaches, and fibromyalgia. It is also possible that factors such as stage of change, attachment style, and ability to tackle difficult emotional experiences can predict which patients are more likely to improve

from the life-stress interview. For example, patients in early stages of change (i.e., precontemplation and contemplation) might benefit more from an insight-building interview than patients further along in stage of change (i.e., preparation, action, maintenance). Further, patients who have an insecure attachment style might also have greater benefit from the life-stress interview than patients who have a secure attachment style. Additionally, patients with a greater ability and willingness to engage in emotion-focused experience exercises are more likely to have greater improvements from the life-stress interview.

As we continue to develop this life-stress interview it will be important to develop ways to assist patients in accessing difficult emotional experiences. The life-stress interview was difficult to engage in for some individuals, and it might be important to alter the interview for these patients. For example, using mindfulness exercises that focus on difficult emotional experiences and eliciting patient's values surrounding emotional expression within their relationships might allow patients to gain easier access to their difficult emotional experiences and increase willingness to engage in experiential exercises. The life-stress interview might also benefit from incorporating motivational interviewing in the beginning phase of the interview to increase motivation to change view on the relationship between stress and physical health.

Further, efforts should be made to disseminate and implement this evidence-based assessment into clinical practice, a challenge faced by many evidence-based assessments and treatments. Research needs to work not only toward creating assessments that are effective, understanding how and for which patients they work, but also toward providing greater access to these assessments. Currently, there is no universal strategy to disseminate evidence-based assessments and treatments, but examination of successful dissemination programs recommends conducting needs and barriers assessments, formal training and education of mental health

providers, and assessing sustainability of the new protocol (McHugh & Barlow, 2010). These strategies should be used to begin to disseminate the life-stress interview. Particularly for this interview, it will also be critical to educate medical providers, who are most frequently providing education and recommendations to their patients, about the usefulness of this interview.

Implications

The findings from this study indicate that brief, even one-session assessment and interventions that are experiential and emotion-focused can be effective in improving pain, physical symptoms, and, to a lesser extent, interpersonal functioning for women with chronic urogenital pain conditions. These findings are incredibly promising, considering the current lack of psychosocial assessments conducted on patients with chronic urogenital pain, the relatively ineffective psychological interventions available to these patients, and the burden that these conditions place on the health care system, patients, and their providers. Conditions such as chronic urogenital pain are very common, yet are hard to diagnose and treat, and patients with these conditions often spend many months, even years, seeking a proper diagnosis, which often takes examinations from multiple medical providers, including primary care physicians, gynecologists, and urologists. Participants in the current study often expressed frustration that their medical symptoms were not well understood by their providers and often felt that they were being told that their symptoms were "all in their head," yet clinical work with these patients and ample research indicates that women with chronic urogenital pain are more likely to have experienced a traumatic event, abuse, emotional conflict, and psychological distress. It is critical that that our current medical system adapt to the needs of these patients. It is possible that one way to do this is to begin to implement our life-stress interview as standard protocol for every patient in a primary care or tertiary care clinic where these patients are being treated. This type of

assessment can provide in-depth information to the medical and behavioral health team at these medical clinics, which may serve to guide their treatments, and, as we have seen in the current study, can begin to provide patients some relief from their pain, physical dysfunction, and difficulty in interpersonal situations.

In sum, patients and medical providers found this brief interview helpful, as supported by improvements in pain, physical symptoms, and interpersonal functioning, and achievable in a one-session visit in a tertiary care clinic, suggesting that emotion-focused interventions for patients with complex and often medically unexplained symptoms can be effective and efficient. This calls for a shift in thinking about how medical and psychological providers address these patient's physical and psychological complaints. We no longer need to rely solely on cognitive-behavioral symptom management techniques, but can incorporate brief, emotion-focused interventions.

APPENDIX A. DIAGNOSES INCLUDED IN STUDY

Urogenital Pain	
	Mononeuritis of Limb
	Dyspareunia
	Vaginismus
	Vulvodynia, unspecified
	Vulvar vestibulitis
	Other vulvodynia
	Myalgia/myositis unspecified
	Neuralgia, neuritis, radiculitis unspecified
	Abdominal pain, unspecified
	Abdominal pain, generalized
Gynecologic	
	Vaginitis vulvovagintis unspecified
	Ulceration of vulva unspecified
	Cystocele, midline
	Rectocele
	Uterine Prolapse without Vaginal Wall prolapse
	Pelvic muscle wasting
	Other specified genital prolapse
	Other specified symptoms of female genital organs
	Unspecified symptoms of female genital organs
	Symptomatic menopause
	Atrophic Vaginitis, postmenopause
	Muscular wasting/atrophy not classified
	Spasm of muscle

APPENDIX B. INTERVIEW PROTOCOL

1. Have patients complete **"Before Session Ratings"**
2. **Discuss ground rules for sessions** ***(5 min)***

    a. There are many things to cover each session, and I will keep you on track
    b. Remind the participant about confidentiality & audio recording (for supervision purposes)
    c. Remind them that session will run for 90mins, verify ability to participate

3. **Introduction** ***(5 min)***

    a. Rationale
    - Remind them that they're here because they reported symptoms during their intake (this won't apply for Jen); *our role is helping you understand the potential role of stress on your health; want to see what role, if any, stress plays in your health*

    b. Meta-communication
    i. We are going to go through a variety of questions about your life, including questions about your health and stressful life experiences; some of these might be difficult to share and some that might not be. You don't know me well, or how I might respond, but I encourage you to be honest and open with me. I know that remembering when a symptom started and how regularly it occurred can be difficult to remember, so please just try your best to give the most accurate response you can.

4. **Health History** ***(10 mins)***

Goal: Get an overview of the participant's health history, including the onset and development of symptoms and/or medical conditions

- *Let's start by doing a brief overview of your health history* (have a sheet of paper to fill out)
- From birth – now (with approximate ages)

a. Create a timeline with patient

i. Health issues/symptoms

Tell me about what kinds of health problems you've had in your life, starting in childhood until now.

- Go over checklist of things they might have missed
    - Abdominal pains
    - IBS
    - Headaches (tension, migraine)
    - Unexplained rashes

- Insomnia or trouble sleeping
- Fibromyalgia
- Chronic pain
- Pelvic pain
- PMS
- Fatigue
- TMJ

5. **Stress History (30 minutes)**
Goal: to help the patient develop an awareness that their physical symptoms are linked to their stress/emotions

Stressful life experiences, including mental health issues (anxiety/dep):

Introduce the task: *I want you to go through their life, from birth to now, telling me any stressful events or difficult experiences that you have had*

Meta-communication about comfort of sharing:
I know that many of these questions can be difficult to share and they might be questions that you are not normally comfortable sharing with other people in your life. It is normal to feel somewhat uncomfortable sharing information about really difficult experiences in your life.

{How are you feeling about sharing with me today?}

{What are your concerns about sharing with me today?}

{I can understand if you feel reluctant to tell me some things, but I really encourage you to give it a try, even if it is difficult or embarrassing or upsetting.}

After they share, go through the checklist for issues they may have forgotten:

I want you to know that many people have gone through these experiences. I will ask you about some specific events and situations that we know are not uncommon experiences for people and we want to know better what your experience with these situations is.

- Checklist: have you ever experienced any of the following:
  - Serious disaster (war, explosion, earthquake)
  - Childhood maltreatment (neglect, not fed or clothed, foster care)
  - Violence between family members (e.g., hitting, kicking, slapping, punching)?
  - Divorce (self or parents)
  - Emotionally abused or neglected (shamed, embarrassed, ignored, or repeatedly told that you were "no good")?

- Abortion or miscarriage
- Private health issues –STDs
- Has a baby or child of yours ever had a severe physical or mental handicap?
- Care-giving for someone close to you who had a severe physical or mental handicap
- Abused or physically attacked (not sexually) by someone you knew? Someone you didn't know?
- Harassed by sexual remarks, jokes, or demands for sexual favors
- Touched or made to touch someone else in a sexual way because he/she forced you in some way
- Have sex (oral, anal, genital) when you didn't want to because someone forced you in some way
- Have any of the events mentioned above ever happened to someone close to you so that even though you didn't experience it yourself, you were seriously upset by it?
- Has someone close to you died (expectedly or unexpectedly)?

- **Secrets?** Conflicts or private struggles with things?
  I would like you to share something you never shared before or haven't shared with me, maybe something private like a secret. You don't know me well, or how I might respond, but I encourage you to be honest and open with me. I can understand if you feel reluctant to share that with me, but I really encourage you to give it a try, even if it is difficult or embarrassing or upsetting.

i. Identifying core conflicts using the checklist

- Ask generally, *what do you struggle with or have a hard time expressing? What do you generally avoid? What do you feel pressured to do or say? What are you conflicted over?*
  After they share, go over examples from the list.
- Checklist:

  Private Conflicts:

  - Conflicts or struggles over sexual behaviors, identity or relationships
  - Not fitting in or feeling ostracized (being teased or picked on, being shy and reserved, not being athletic or popular)
  - Feeling inferior to siblings or other relatives (not as beautiful, funny, athletic, interesting, accomplished)
  - Resentment and/or anger towards family members, religious leaders, neighbors

  Psychological Consequences:

  - Feeling pressure to succeed or be perfect
  - Disappointing people
  - Getting too close to people
  - People, memories, or things that you avoid?

- Loss and abandonment (losing a parents or child, divorce)
- Never feeling loved or cared for
- Not trusting others; avoiding being too close, touching or too connected with others
- Never feeling good enough, having to "earn" love from parents, feeling criticized much of the time
- Learning to be anxious, worried, or insecure

6. Experiential Component (30 minutes)

- Applaud participants for recognizing conflict*: Thank you for sharing those experiences with me, that was brave of you. The way these conflicts show up is normally in what you say and do with others in your life*

Rationale

- Rationale of two core domains: autonomy (independence, assertiveness, power) and communion (love, connecting, trust): *We all have two core needs. First, to be loved, accepted and cared for; to be able to trust and connect to someone. Second, we have a need to be independent, strong, even powerful; to take care of and protect ourselves. These two needs show up in our important relationships.*
- *Ideally, people should be free to express both needs, but what usually happens it is hard, at least in some relationships.*

SYMPTOMS: *How would you rate your physical symptoms right now, on a scale from 0-10; 0(no pain), 10(worst pain).*

General Demonstration

- *I want to see what it is like for you to express both of those sides of yourself.*
- *Show me what it would look like to use voice, tone and body to engage in assertiveness and being powerful, and the other side of caring, connection, and love.*

Domain I: Communion

Q: How can you express sadness, or love, or longing for someone?

- What words or sayings can you share that help bring you closer to another person, to connect with them?
  - I'm sorry about what I did to you.
  - I don't want to lose you.
  - I want to be close to you.
  - I love you.
  - Thank you for doing that for me.
  - I was wrong. (You were right.)

- I don't want to hurt you.
- I want you and me to have a closer, more genuine relationship.
- You really are important to me.

Q: What tone do you have in your voice?

- It should be connecting, genuine, soft

Q: What posture do you show with your body? Your face?

- Demonstrate such postures…open body and arms…face soft

Domain II: Agency

Q: What are some words that we use when we mean that we are angry?

- Generate list of words ranging "intensity" from very low (e.g., annoyed) to very high (enraged, furious)

Q: What posture can you use to show anger or strength?

- Standing tall, proud, arms crossed
- Standing akimbo (hands on hips/ defensive posture)
- Pointing at someone exercise
- Strong / angry gestures (e.g., flipping the bird, thumbing the nose, etc.)

- Close your eyes and imagine someone trying to hurt your body….or take your children….or touch you in a way that you don't want.
  - What does your body want to do? Your hands?
  - Picture yourself pushing that person very hard, Punching that person, Choking that person

- How about facial expressions of anger? What do they look like?

  - Note: You cannot smile and be angry: smiling is usually a barrier or defense
  - How about tears instead of anger? Usually they are learned ways to reduce your anger and avoid hurting someone.

Q: How can your voice show anger?

- Voice loudness: Many people have trouble yelling …help them do it, escalating the volume and intensity
  - Try "NO!" and increase in volume and intensity
  - Try "I WILL NOT" and do the same thing.
  - Try: I AM MAD AT YOU!

PROMPTS: *How is that for you? How hard or easy?*
SYMPTOMS: *How would you rate your physical symptoms right now, on a scale from 0-10; 0(no pain), 10(worst pain).*

Specific Demonstrations, ASK:

Rationale:

- *Stress is very often having these two needs conflict with each other, or be suppressed. Stress is often being trapped when you have these important things to be expressed, but you feel stuck—that it is wrong or dangerous to express them.*

- *You are doing these things in this private meeting, this doesn't mean that we are encouraging you to do them in their relationships. But that the goal here is to have you "try on" new ways of expressing yourself*

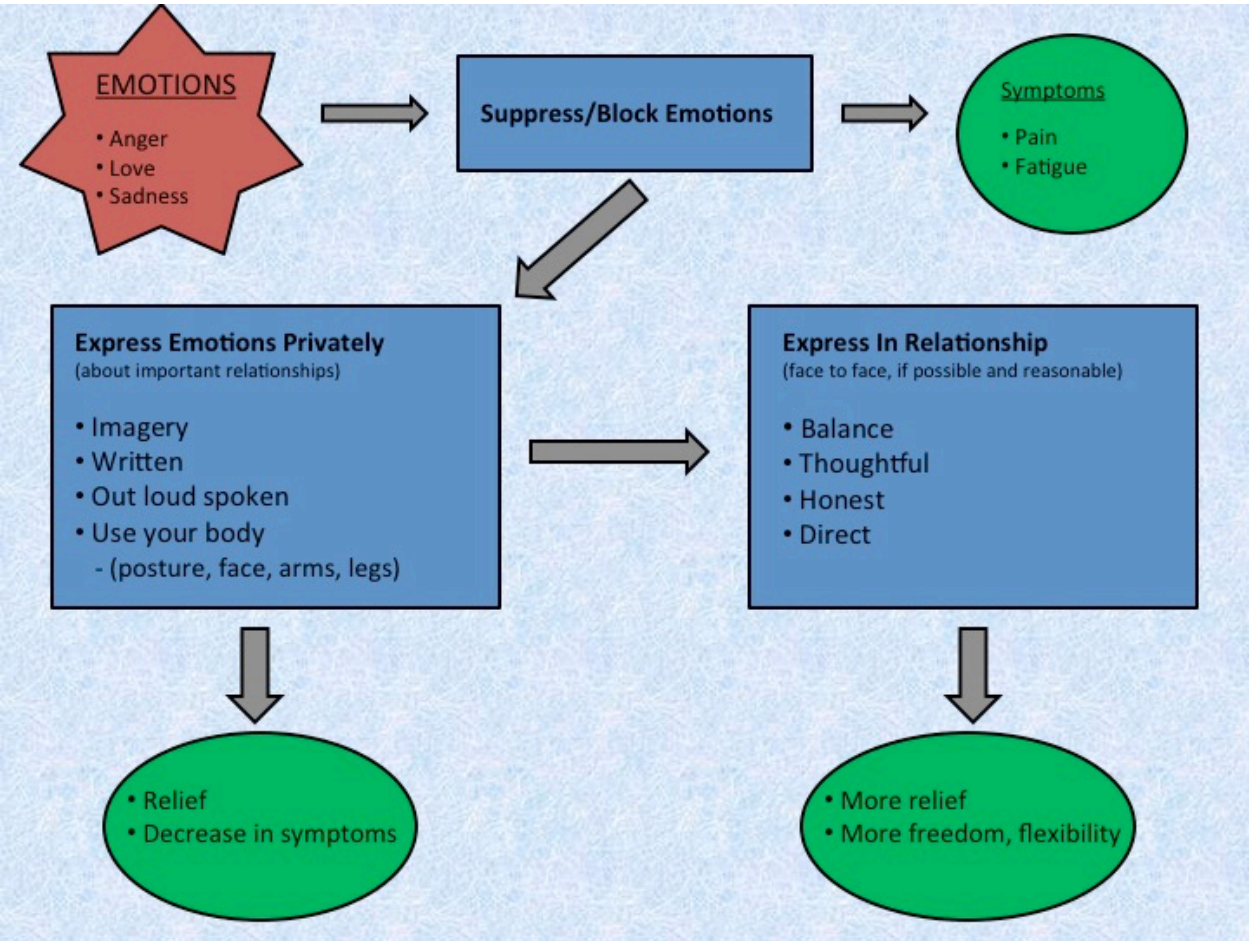
- *Then,* ***how does this apply to key people in your life****?*
- ***Show me what it looks like to be X, Y with person Z***
- *Is there a part of you what would like to express X and Y to Z*
- *I'd like to do a test run of how you can express some of these important emotions*
- Take them through expressing their emotions to one or two important people who they have conflict with
- Identify a conflicted relationship from the person's stress interview.

PROMPTS: *How is that for you? How hard or easy?*
SYMPTOMS: *How would you rate your physical symptoms right now, on a scale from 0-10; 0(no pain), 10(worst pain).*

7. **Wrap up: (10 minutes)**
    - What have you discovered about yourself? Your symptoms? The connections?
    - How did you feel about the interview? What were your reactions? Likes/dislikes?
    - Give them feedback, offer it as a hypothesis: *This is an area of strength, this is an area of strength..etc, Seems like expression of anger is anxiety provoking for you, that's pretty common, may be beneficial for you to work on it and get more comfortable about*
    - *For many people, the stress of keeping things suppressed actually contributes to their physical symptoms, and that relief from symptoms happens when they are able to express their genuine feelings. This can be done in writing, privately when you are alone, and even directly to a person, though when you do that, you usually need to communicate more gently, both of your needs (love and power)*

8. Complete **"Post-Session Ratings"**

APPENDIX C. POST-SESSION HANDOUT



APPENDIX D. CONSENT FORM

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CONSENT FORM AND AUTHORIZATION FOR DISCLOSURE OF PROTECTED HEALTH INFORMATION

STUDY TITLE: LIFE-STRESS INTERVIEW FOR WOMEN WITH CHRONIC UROGENITAL PAIN

Principal Investigator: Jennifer Carty, M.A.
Address: 3601 West 13 Mile Rd., 2 South, Royal Oak, MI 48073

Hospital: William Beaumont Hospital

INTRODUCTION
Why is this study being done?
You are being asked to participate in a clinical research study. The purpose of clinical research is to look at the nature of disease and try to develop improved methods to diagnose and treat disease. The researcher in charge of the study believes you meet the initial requirements to take part in the study. Before agreeing to participate, it is important for you to read and understand the following explanation of the research procedures. This consent and authorization form describes the purpose, procedures, benefits, risks and discomforts of the study. It also describes the alternatives available to you, and your right to withdraw (quit) from the study at any time.

Please read this information carefully and ask as many questions as you like before deciding whether or not you would like to take part in this research study.

The goal of this study is to have women with chronic urogenital pain participate in a life-stress interview that will ask about your health history, stressful life experiences, and how stressful life experiences have effected your health, if at all. This study will also examine if participating in this type of life-stress interview can improve your physical and mental health.

A total of 150 women will take part in this study being done at William Beaumont Hospital.

How long will I be in the study?
If you decide to take part in this study, your participation is expected to last 6 to 8 weeks.

DESCRIPTION OF THE STUDY
What will happen if I take part in the research study?
If you choose to be a participant in the study, you will be assessed, during your first visit, to determine if you qualify to participate. After signing this Consent and Authorization, you will have a 1-hour "baseline" evaluation session during which you will fill out questionnaires on a computer at home about your physical symptoms, mood, functioning, and attitudes about your health and treatment. Six weeks after the start of the study, you will be asked to complete a "follow-up evaluation" where you will complete the same questionnaires as you did at the baseline evaluation.

After the baseline evaluation session, you will be randomly assigned (like picking numbers out of a hat) to one of two groups. You have a 2 out of 3 chance of being assigned to the Immediate

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Interview group in which you will be interviewed as soon as possible, and you have a 1 out of 3 chance of being assigned to the Delayed Interview group, where you will be interviewed after the follow-up evaluation (about 6 weeks after starting the study).

The interview that you will have will last about 1 and a half hours (90 minutes). During the interview, you will meet privately with a therapist, who will review your health history, stressful events and experiences in your life, examine links between your stress and health, and examine how you deal with your emotions and express them. The session with the therapist will be audiorecorded so that the therapist can be supervised. Also, at the beginning and end of each session, you will be asked to rate your mood, physical symptoms, and attitudes toward the interview.

The following activities will occur at the specific study visits:

Visit 1 – Screening and study overview	• Occurs in person at the Women's Urology Center or via telephone • Assessed for study eligibility • Complete consent
Visit 2 – Baseline evaluation and randomization	• Occurs at home • Complete within 1 week of visit 1 • Completed online or using paper forms • Questionnaires assessing physical symptoms, mood, functioning, and attitudes about your health and treatment • After measures are completed, you will be called to be randomized
Visit 3 – Immediate Interview	• Occurs within 1 week after visit 2 • Immediate Interview Group will return to the Women's Urology Center for the 90-minute interview • Delayed Interview Group – no visit
Visit 4 – Follow-up evaluation	• Occurs at home • 6-weeks post-randomization • Completed online or using paper forms • Questionnaires assessing physical symptoms, mood, functioning, and attitudes about your health and treatment
Visit 5 – Delayed Interview	• After completion of Visit 4 • Immediate Interview Group – no visit • Delayed Interview Group will return to the Women's Urology Center for the 90-minute interview

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FDA Clinical Trial Information
A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. Law. This website will not include information that can identify you. At most, the website will include a summary of the results. You can search this website at any time.

RISKS, SIDE EFFECTS AND DISCOMFORTS
What side effects or risks can I expect from being in the study?

Risks of the Life-Stress Interview:
Less Frequent (occurring from 1% to 10% of the time)

- Short-term emotional upset

There is a rare risk of breach of confidentiality (release of information which personally identifies you). Although most information will be kept confidential, there are some instances where we are obligated to report our concerns to the authorities. The following information must be released/reported to the appropriate authorities if at any time during the study there is concern that:

- You are at risk for harming yourself or another person
- Child abuse or elder abuse has possibly occurred,
- You have a reportable communicable disease (i.e., certain sexually transmitted diseases or HIV)
- You disclose illegal criminal activities, illegal substance abuse, or violence

Additionally, because we are recording your name, address, and phone number there is a risk of a breach or loss of confidentiality. Not all possible effects are known. With any assessment technique, unusual, unexpected or previously unreported side effects may occur. You will be informed of any significant new findings, which develop during the course of this research study, which may change your decision to continue participating in this study.

BENEFITS
What are the benefits of taking part in this study?
By taking part in this study you might learn more about stress in your life, and how stress is related to your physical health; however, there may be no direct benefit to you from taking part in this study. This might also reduce your physical symptoms or improve your mood, but this cannot be guaranteed. Additionally, information gained from the results of this study may be of benefit to others in the future, with a similar medical condition.

ALTERNATIVE OPTIONS
What are my choices other than taking part in this study?
You do not have to take part in this study. The alternative is to decline participation. You can also obtain stress management interventions from practitioners in the community, and you can consult your physician about this.

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ECONOMIC CONSIDERATIONS
What are the costs of taking part in this study?
There is no cost to you for participating in this study. You will be compensated after each evaluation session that you complete and for the interview. You will receive $10 for each evaluation session and $20 for the interview for a total of $40.

COMPENSATION
What happens if I am injured because I took part in this study?
Your involvement in this study voluntary. The possible risks and side effects that might occur during the course of the research study have been described in this Consent and Authorization form. A research injury is any physical injury or illness caused by your participation in this study.

Should any unintentional injury or damage result from you taking part in this study, there are no designated funds provided for subsequent medical care or compensation by either the study researchers or William Beaumont Hospital.

What are my rights if I take part in this study?
You are not giving up any of your legal rights by signing this form.

CONFIDENTIALITY, DISCLOSURE AND USE OF YOUR INFORMATION
Will my medical information be kept private?
In order for this research study to take place, you must also authorize the researchers to access and use some of your protected health information (PHI). PHI is information that could identify you as an individual such as name, address, date of birth, etc. By signing this Consent and Authorization Form, you will give William Beaumont Hospital permission to use and/or disclose (release) your health information related to this research. Your medical and billing records collected for the purpose of the study will remain confidential, but may be disclosed (released) or used by the following and/or their representatives:

- The investigators (principal investigator, research staff)
- William Beaumont Hospital
- The Food and Drug Administration
- Other governmental regulatory agencies (domestic and/or foreign)
- Your health insurance company and/or group health plans and their intermediaries (companies contracted to process claims) may also have access to your medical and billing records of the study.

The purpose for this disclosure (release) or use is, for example, to ensure compliance with the study protocol, to evaluate the effectiveness of the study, and/or to provide protection to you as a research study participant. The disclosure and use of your information will continue after your involvement in the study has ended. There is no expiration date for the use of your medical and billing records from the study. Any information about you disclosed to the parties identified above may be re-disclosed by them; however, such re-disclosure is not under the protections of this Consent and Authorization.

You will not be identified in any publication, other release of study results, data, and other information (such as in professional writings, at professions meetings, and in the study sponsor's product information, and/or advertising or other promotional materials).

If you decide to withdraw your authorization for the researchers to access and use your personal health information before the end of the study, you may be withdrawn from the research study. However, where the study relied on your Consent and Authorization for the time you participated in the study, your Consent and Authorization cannot be withdrawn and the information already collected may still be used and disclosed as you previously authorized.

STOPPING STUDY PARTICIPATION

What if I decide to stop taking part in the study?

Taking part in this research study is completely voluntary. You may choose not to take part or to stop being in the study (withdraw) at any time without penalty or loss of benefits to which you are otherwise entitled, or without jeopardizing your medical care by your clinician at William Beaumont Hospital. However, if you do not agree to sign this Consent and Authorization form, you will not be able to take part in this study.

If you decide to withdraw from the study you will need to notify the principal investigator, in writing, of your decision to stop taking part in the study. This notice may be sent to Jennifer Carty, M.A., at William Beaumont Hospital, Women's Urology Center, 2 South, 3601 West 13 Mile Road, Royal Oak, MI 48073.

Your participation in this study may be stopped by the principal investigator, without your consent, for any reason, which will be explained to you. Examples include:

- The study procedures appear to be medically harmful to you.
- You fail to follow directions for participating in the study.
- It is discovered you do not meet the study requirements.
- The study is cancelled.
- It is determined to be in your best interest.

CONTACTS

Who can answer my questions about the study?

You may talk to the principal investigator about any questions or concerns regarding your study participation, or if you think you may have suffered a research-related injury. The principal investigator in charge of the study, Jennifer Carty, M.A., may be reached at (313) 577-2304 to answer your questions.

If you have questions regarding your rights as a research participant, or have problems, concerns, complaints, want information or would like to offer input, you may contact the Institutional Review Board (Human Investigation Committee) Chairperson at (248) 551-0662. The Human Investigation Committee is charged with the oversight of all human participant research conducted at William Beaumont Hospital facilities.

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Version # 3/10/14

STATEMENT OF VOLUNTARY PARTICIPATION
I have read the above, have asked questions and have received answers about this study to my satisfaction. I understand what I have read and willingly give my consent to participate in **LIFE-STRESS INTERIVEW FOR WOMEN WITH UROGENITAL PAIN AND GYNECOLOGIC DISORDERS.** I understand I will receive a signed copy of this document and will be promptly informed of any new findings regarding this study. I further authorize the use or disclosure of my health and personal information contained in records as described above.

_____
RESEARCH PARTICIPANT NAME (PLEASE PRINT)

_____ _____ _____
RESEARCH PARTICIPANT SIGNATURE DATE TIME

ALTERNATIVE SIGNATURE (IF RESEARCH PARTICIPANT UNABLE TO SIGN)
AS THE PERSONAL/LEGAL REPRESENTATIVE OF THE STUDY PARTICIPANT, PLEASE PRINT PARTICIPANTS NAME ABOVE IN THE RESEARCH PARTICIPANT SECTION, AND CHECK ONE OF THE BOXES BELOW AS THE BASIS FOR YOUR AUTHORITY TO SIGN THIS CONSENT AND AUTHORIZATION:

☐ COURT-APPOINTED GUARDIAN ☐ DURABLE POWER OF ATTORNEY
☐ NEXT OF KIN
*COURT LETTER IS REQUIRED *ATTORNEY LETTER MUST BE PRESENT & VERIFIED BY 2 PHYSICIANS

_____ _____
NAME (PLEASE PRINT) RELATIONSHIP TO PARTICIPANT

_____ _____ _____
SIGNATURE DATE TIME

☐ WITNESS TO SIGNATURE ON CONSENT ☐ WITNESS TO CONSENT PROCESS AND SIGNATURE

_____
WITNESS NAME (PLEASE PRINT)

_____ _____ _____
WITNESS SIGNATURE DATE TIME

AUTHORIZED CONSENT PROVIDER STATEMENT:
I have explained this study and have offered the study participant an opportunity for any further discussion or clarification.

_____ _____ _____

IRB NUMBER: 2014--151
IRB APPROVAL DATE: 08/01/2014
IRB EXPIRATION DATE: 07/31/2015

HIC # 2014-151
Version # 3/10/14

NAME (PLEASE PRINT)	CREDENTIALS	PHONE NUMBER

SIGNATURE	DATE	TIME

IRB NUMBER: 2014--151
IRB APPROVAL DATE: 08/01/2014
IRB EXPIRATION DATE: 07/31/2015

APPENDIX E. MEASURES

Sociodemographic Form

1. Age ____

2. Ethnicity:
   ____ Hispanic/Latino
   ____ Middle Eastern

3. Race:
   ____ African American/Black
   ____ Asian
   ____ Caucasian/White
   ____ American Indian and Alaska Native
   ____ Other

4. What is the highest level in school that you completed?
   ___ Less than 8th grade [record highest grade completed]
   ___ Some high school *[record highest grade completed]*
   ___ High school graduate
   ___ GED
   ___ Some college *[record number of yrs completed if less than AA]*
   ___ Technical degree or AA
   ___ College degree [e.g. BA/BS]
   ___ Graduate or professional degree *[indicate which degree MA, PhD, DO, MD)]*

5. What is your current relationship status?
   ___ Married
   ___ Separated
   ___ Divorced
   ___ Widowed
   ___ Never married
   ___ Living with a partner in a committed relationship

6. What is your current employment status?
   ___ Homemaker
   ___ Unemployed
   ___ Retired
   ___ On disability
   ___ On leave of absence
   ___ Full-time employed
   ___ Part-time employed
   ___ Full-time student only

7. What is your household income?
   ___ Less than $10,000

___ $10,000 to $14,999
___ $15,000 to $24,999
___ $25,000 to $34.999
___ $35,000 to $49,999
___ $50,000 to $74,999
___ $75,000 to $99,999
___ $100,000 to $149.999
___ $150,000 to $199,999
___ $200,000 or more

MEDICAL INFORMATION AND HISTORY

1. Primary diagnosis: _____
2. Onset of those symptoms: _____ *[record year]*
3. Date of First Diagnosis: _____ *[record year]*
4. Have you experienced pain or symptoms today? _____Yes _____No
   In past 2 months? _____Yes _____No

5. Is your health affected by any of the following medical problems?

_____ Heart disease
_____ Diabetes
_____ Hypertension
_____ Chronic lung disease
_____ Cancer
_____ Gout
_____ Stroke
_____ Syncope/Fainting
_____ Kidney disease
_____ Liver disease
_____ Ulcer or other stomach disease
_____ Psychiatric illness or mental disorder
_____ Alcohol or drug use

_____Lupus
_____Scleroderma
_____ Rheumatoid Arthritis
_____Headaches
_____migraine?
_____ other
_____ Irritable Bowel Syndrome
_____ Crohn's Disease
_____ Ulcerative Colitis
_____ Chronic Pelvic Pain
_____ Interstitial Cystitis
_____ Vulvodynia
_____ Asthma

Other Medical Conditions? _____.

6. Height (in feet and inches): _____. Weight (in pounds) : _____.

ALTERNAIVE TREATMENTS INFORMATION

Many people try a lot of different things to help with their health. Tell me if you have ever used or tried each of the following things to improve your symptoms.

	Past	Present	No
Eating healthier or changing your nutrition …….			
Eating herbal remedies ……			
Using over-the-counter or non-prescription medications ……			
Using street drugs such as marijuana, cocaine, or others ……			
Praying, reading the Bible, or other religious things by yourself…			
Attending religious services (includes revival, laying on of hands, etc.) ……			
Acupuncture …….			
Biofeedback ……			
Talking with a counselor or psychotherapist ……			
Physical therapy ……			
Exercise ……			
Imagery, relaxation, or meditation ……			
Support group ……			
Magnets or copper bracelets …….			

Any other type of treatment for your symptoms?	In the past	Presently
Treatment		
_____	☐	☐
_____	☐	☐
_____	☐	☐
_____	☐	☐

General Symptom Interpretation Questionnaire

Listed below are conditions you may or may not have ever experienced. For each condition, please circle the letter next to each reason or group of reasons that corresponds to how much that might explain your condition. Please check every item for each question. Also, answer whether you have had the condition in the past 3 months by circling A (YES) or B (NO). Please answer all questions.

1. If I had a *prolonged headache*, I would probably think that it is because:

I am emotionally upset	A B C D
There is something wrong with my muscles, nerves or brain	A B C D
A loud noise, bright light or something else has irritated me	A B C D
Have you had a prolonged headache in the last 3 months?	A - Yes B - No

2. If I was *sweating a lot*, I would probably think that it is because:

I must have a fever or infection	A B C D
I'm anxious or nervous	A B C D
The room is too warm, I'm overdressed or working too hard	A B C D
Have you noticed yourself sweating a lot in the last 3 months?	A - Yes B - No

3. If I got *dizzy all of a sudden*, I would probably think it is because:

There is something wrong with my heart or blood pressure	A B C D
I am not eating enough or I got up too quickly	A B C D
I must be under a lot of stress	A B C D
Have you felt dizzy in the last 3 months?	A - Yes B - No

4. If I noticed my *mouth was dry*, I would probably think it is because:

I must be scared or anxious about something	A B C D
I need to drink more liquids	A B C D
There is something wrong with my salivary glands	A B C D
Have you had a dry mouth in the last 3 months?	A - Yes B - No

5. If I felt my *heart pounding in my chest*, I would probably think it is because:

I've exerted myself or drunk a lot of coffee	A B C D
I must be really excited or afraid	A B C D
There must be something wrong with my heart	A B C D
Have you noticed your heart pounding in the last 3 months?	A - Yes B - No

6. If I felt *fatigued*, I would probably think it is because:

I'm emotionally exhausted or discouraged	A B C D
I've been over-exerting myself or not exercising enough	A B C D
I'm anemic or my blood is weak	A B C D
Have you felt fatigued in the last 3 months?	A - Yes B - No

7. If I noticed my *hand trembling*, I would probably think it is because:

I might have some sort of neurological problem	A B C D
I'm very nervous	A B C D
I've tired the muscle in my hand	A B C D
Have you noticed your hands trembling in the last 3 months?	A - Yes B - No

8. If I had *trouble sleeping*, I would probably think it is because:

Some kind of pain or physical discomfort is keeping me awake	A B C D
I'm not tired or I had too much coffee	A B C D
I'm worrying too much or I must be nervous about something	A B C D
Have you had trouble sleeping in the last 3 months?	A - Yes B - No

9. If my *stomach was upset*, I would probably think it is because:

I've worried myself sick	A B C D
I have the flu or stomach irritation	A B C D
I've had something to eat that did not agree with me	A B C D
Have you had an upset stomach in the last 3 months?	A - Yes B - No

10. If I lost my *appetite*, I would probably think it is because:

I've been eating too much or my body doesn't need as much food as before	A B C D
I'm worrying so much that food just doesn't taste good anymore	A B C D
I have some stomach or intestinal problem	A B C D
Have you lost your appetite in the last 3 months?	A - Yes B - No

11. If I had a *hard time catching my breath*, I would probably think it is because:

My lungs are congested from infection, irritation or heart trouble	A B C D
The room is stuffy or there is too much pollution in the air	A B C D
I'm over-excited or anxious	A B C D
Have you had a hard time catching your breath in the last 3 months?	A - Yes B - No

12. If I noticed *numbness or tingling in my hands or feet*, I would probably think it is because:

I'm under emotional stress	A B C D
There is something wrong with my nerves or blood circulation	A B C D
I am cold or my hand or foot went to sleep	A B C D
Have you had numbness or tingling in your hands or feet in the last 3 months?	A - Yes B - No

13. If I was *constipated or irregular*, I would probably think it is because:

There is not enough fruit or fiber in my diet	A B C D
Nervous tension is keeping me from being regular	A B C D
There is something wrong with my bowels or intestines	A B C D
Have you been constipated or irregular in the last 3 months?	A - Yes B - No

Specific Symptom Interpretation Questionnaire

Listed below are conditions you may or may not have ever experienced. For each condition, please circle the letter next to each reason or group of reasons that corresponds to how much that might explain your conditio Please check every item for each question. Also, answer whether you have had the condition in the past 3 months by circling A (YES) or B (NO). Please answer all questions.

	A Not at all	B Some-what	C Quite a bit	D A great deal
1. If I experience *elevated physical symptoms related to my pelvic disorder*, I would probably think that it is because of:				
My biology or physical make-up	A	B	C	D
My psychology or emotions	A	B	C	D
Something in my environment	A	B	C	D
Have you had elevated physical symptoms in the last 3 months?	A - Yes		B - No	

Change Assessment Questionnaire

0 = Strongly Disagree
1 = Disagree
2 = Undecided
3 = Agree
4 = Strongly Agree

	SD	D	U	A	SA
1. The best thing I can do is find a doctor who can figure out how to get rid of my symptoms once and for all.	0	1	2	3	4
2. Even if my symptoms doesn't go away, I am ready to start changing how I deal with it.	0	1	2	3	4
3. I am testing out some stress management techniques to manage my symptoms better.	0	1	2	3	4
4. My symptoms are a medical problem and I should be dealing with physicians about it.	0	1	2	3	4
5. I realize now that it is time for me to come up with a better plan to cope (e.g. stress management techniques) with my symptoms.	0	1	2	3	4
6. I use what I have learned to help keep my symptoms under control.	0	1	2	3	4
7. All of this talk about how to manage stress better is a waste of time.	0	1	2	3	4
8. I am beginning to wonder if I need to get some help to develop skills for dealing with my symptoms.	0	1	2	3	4
9. I have started to come up with strategies to help myself control my symptoms.	0	1	2	3	4

BRIEF PAIN INVENTORY

1. Please rate your pain by circling the one number that best describes your pain at its *worst* in the last week.

0 1 2 3 4 5 6 7 8 9 10
No pain — Pain as bad as you can imagine

2. Please rate your pain by circling the one number that best describes your pain at its *least* in the last week.

0 1 2 3 4 5 6 7 8 9 10
No pain — Pain as bad as you can imagine

3. Please rate your pain by circling the one number that best describes your pain on the *average* for the last week.

0 1 2 3 4 5 6 7 8 9 10
No pain — Pain as bad as you can imagine

4. Please rate your pain by circling the one number that tell how much pain you have *right now.*

0 1 2 3 4 5 6 7 8 9 10
No pain — Pain as bad as you can imagine

For the next set of questions, choose the one number that describes how, during the past week, pain has interfered with the following activities. Please use the 0 to 10 scale, where a 0 means that "pain does not interfere with that activity" and a 10 means that "pain completely interferes."

Does not interfere										**Completely interferes**
0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

a) General Activity……..0 1 2 3 4 5 6 7 8 9 10

b) Mood……..0 1 2 3 4 5 6 7 8 9 10

c) Mobility (ability to get around)……..0 1 2 3 4 5 6 7 8 9 10

d) Normal Work (includes both work outside the home and housework)
……..0 1 2 3 4 5 6 7 8 9 10

e) Relations With Other People……..0 1 2 3 4 5 6 7 8 9 10

f) Sleep……..0 1 2 3 4 5 6 7 8 9 10

g) Enjoyment Of Life……..0 1 2 3 4 5 6 7 8 9 10

Short-Form McGill Pain Questionnaire-2 (SF-MPQ-2)

This questionnaire provides you with a list of words that describe some of the different qualities of pain and related symptoms. Please put an **X** through the numbers that best describe the intensity of each of the pain and related symptoms you felt during the past week. Use 0 if the word does not describe your pain or related symptoms.

1. Throbbing pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
2. Shooting pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
3. Stabbing pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
4. Sharp pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
5. Cramping pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
6. Gnawing pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
7. Hot-burning pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
8. Aching pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
9. Heavy pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
10. Tender	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
11. Splitting pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
12. Tiring-exhausting	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
13. Sickening	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
14. Fearful	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
15. Punishing-cruel	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
16. Electric-shock pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
17. Cold-freezing pain	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
18. Piercing	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
19. Pain caused by light touch	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*
20. Itching	*none*	0	1	2	3	4	5	6	7	8	9	10	*worst poss*

21. Tingling or 'pins and needles'	*none*	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	*worst poss*
22. Numbness	*none*	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	*worst poss*

Patient Health Questionnaire 15-Item Somatic Symptom Severity Scale

During the *past 4 weeks*, how much have you been bothered by any of the following problems?	Not bothered at all	Bothered a little	Bothered a lot
a. Stomach pain	☐	☐	☐
b. Back pain	☐	☐	☐
c. Pain in your arms, legs, or joints (knees, hips, etc.)	☐	☐	☐
d. Menstrual cramps or other problems with your periods [Women only]	☐	☐	☐
e. Headaches	☐	☐	☐
f. Chest pain	☐	☐	☐
g. Dizziness	☐	☐	☐
h. Fainting spells	☐	☐	☐
i. Feeling your heart pound or race	☐	☐	☐
j. Shortness of breath	☐	☐	☐
k. Pain or problems during sexual intercourse	☐	☐	☐
l. Constipation, loose bowels, or diarrhea	☐	☐	☐
m. Nausea, gas, or indigestion	☐	☐	☐
n. Feeling tired or having low energy	☐	☐	☐
o. Trouble sleeping	☐	☐	☐

BRIEF SYMPTOM INVENTORY

Below is a list of problems and complaints that people sometimes have. Please circle the response that best describes how much discomfort that problem has caused you during the past 7 days INCLUDING TODAY. Please do not skip any items.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Nervousness or shakiness inside	0	1	2	3	4
2. Thoughts of ending your life	0	1	2	3	4
3. Suddenly scared for no reason	0	1	2	3	4
4. Feeling lonely	0	1	2	3	4
5. Feeling blue	0	1	2	3	4
6. Feeling no interest in things	0	1	2	3	4
7. Feeling fearful	0	1	2	3	4
8. Your feelings being easily hurt	0	1	2	3	4
9. Feeling that people are unfriendly or dislike you	0	1	2	3	4
10. Feeling inferior to others	0	1	2	3	4
11. Feeling hopeless about the future	0	1	2	3	4
12. Feeling tense or keyed up	0	1	2	3	4
13. Feeling very self-conscious with others	0	1	2	3	4
14. Spells of terror or panic	0	1	2	3	4
15. Feeling so restless that you couldn't sit still	0	1	2	3	4
16. Feelings of worthlessness	0	1	2	3	4

Global Response Assessment

Compared to when you started the study…

1. How would you rate your symptoms now?

- ☐ Markedly worse
- ☐ Moderately worse
- ☐ Slightly worse
- ☐ No change
- ☐ Slightly improved
- ☐ Moderately improved
- ☐ Markedly improved

IIP-32

People have reported having the following problems in relating to other people. Please read the list below, and for each item, consider whether it has been a problem for you with respect to any significant person in your life. Then fill in the numbered circle that describes how distressing that problem has been.

It is hard for me to:	**Not at all (0)**	**A little bit (1)**	**Moderately (2)**	**Quite a bit (3)**	**Extremely (4)**
1. Say "no" to other people					
2. Join in on groups					
3. Keep things private from other people					
4. Tell a person to stop bothering me					
5. Introduce myself to new people					
6. Confront people with problems that came up					
7. Be assertive with another person					
8. Let other people know when I am angry					
9. Socialize with other people					
10. Show affection to people					
11. Get along with other people					
12. Be firm when I need to be					
13. Experience a feeling of love for another person					
14. Be supportive of another person's goals in life					
15. Feel close to other people					
16. Really care about other people					
17. Put somebody else's needs before my own					
18. Feel good about another person's happiness					
19. Ask other person to get together socially with me					
20. Be assertive without worrying about hurting the other person's feelings					

The following are things that you do too much.

21. I open up to people too much.					
22. I am too aggressive toward other people.					
23. I try to please other people too much.					
24. I want to be noticed too much.					
25. I try to control other people too much.					
26. I put other people's needs before my own too much.					
27. I am overly generous to other people.					
28. I manipulate other people too much to get what I want.					
29. I tell personal things to other people too much.					

30. I argue with other people too much.					
31. I let other people take advantage of me too much.					
32. I am affected by another person's misery too much.					

SWLS

Below are five statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

1 = Strongly disagree
2 = Disagree
3 = Slightly disagree
4 = Neither agree nor disagree
5 = Slightly agree
6 = Agree
7 = Strongly agree

____ 1. In most ways my life is close to my ideal.
____ 2. The conditions of my life are excellent.
____ 3. I am satisfied with my life.
____ 4. So far, I have gotten the important things I want in life.
____ 5. If I could live my life over, I would change almost nothing.

Pelvic Floor Distress Inventory Questionnaire - Short Form 20

Please answer all of the questions in the following survey. These questions will ask you if you have certain bowel, bladder or pelvic symptoms and if you do how much they bother you. Answer each question by putting an **X** in the appropriate box or boxes. If you are unsure about how to answer, please give the best answer you can. While answering these questions, please consider your symptoms over the **last 3 months.**

			If yes, how much does it bother you?			
			Not at all	Somewhat	Moderately	Quite a bit
1	Do you usually experience pressure in the lower abdomen?	YES ☐ NO ☐				
2	Do you usually experience heaviness or dullness in the lower abdomen?	YES ☐ NO ☐				
3	Do you usually have a bulge or something falling out that you can see or fell in the vaginal area?	YES ☐ NO ☐				
4	Do you usually have to push on the vagina or around the rectum to have a complete bowel movement?	YES ☐ NO ☐				
5	Do you usually experience a feeling of incomplete bladder emptying?	YES ☐ NO ☐				
6	Do you ever have to push up in the vaginal area with your fingers to start or complete urination?	YES ☐ NO ☐				
7	Do you feel you need to strain too hard to have a bowel movement?	YES ☐ NO ☐				
8	Do you feel you have not completely emptied your bowels at the end of a bowel movement?	YES ☐ NO ☐				
9	Do you usually lose stool beyond your control if your stool is well formed?	YES ☐ NO ☐				

			If yes, how much does it bother you?			
			Not at all	Somewhat	Moderately	Quite a bit
10	Do you usually lose stool beyond your control if you stool is loose or liquid?	YES ☐ NO ☐				
11	Do you usually lose gas from the rectum beyond your control?	YES ☐ NO ☐				
12	Do you usually have pain when you pass your stool?	YES ☐ NO ☐				
13	Do you experience a strong sense of urgency and have to rush to the bathroom to have a bowel movement?	YES ☐ NO ☐				
14	Does part of your stool ever pass through the rectum and bulge outside during or after a bowel movement?	YES ☐ NO ☐				
15	D you usually experience frequent urination	YES ☐ NO ☐				
16	Do you usually experience urine leakage associated with a feeling of urgency; that is, a strong sensation of needing to go to the bathroom?	YES ☐ NO ☐				
17	Do you usually experience urine leakage related to laughing, coughing, or sneezing>	YES ☐ NO ☐				
18	Do you usually experience small amounts of urine leakage (that is, drops)?	YES ☐ NO ☐				
19	Do you usually experience difficulty emptying your bladder?	YES ☐ NO ☐				
20	Do you usually experience pain of discomfort in the lower abdomen or genital region?	YES ☐ NO ☐				

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ABSTRACT

THE EFFECTS OF A LIFE-STRESS INTERVIEW FOR WOMEN WITH CHRONIC UROGENITAL PAIN: A RANDOMIZED TRIAL

by

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Chronic urogenital pain, pressure, and dysfunction are common, affecting nearly one in seven women in the U.S., who are commonly diagnosed with pelvic floor dysfunction, painful bladder syndrome, or interstitial cystitis. Women with these symptoms tend to have co-morbid anxiety and depression, relatively high rates of lifetime trauma and abuse, and conflicts or stress from key relationships. There is theory and evidence indicating that unresolved abuse or emotional conflicts can trigger or exacerbate urogenital pain and other symptoms (Abbass, 2009), but assessment of the presence and role of psychological stress is rarely done in women's health care settings. When mental health is assessed, it is typically done using brief self-report measures, which do not provide a comprehensive view of stress, emotions, and health, motivate patients to change, or relieve their symptoms. There is little research on procedures for assessing stress, emotional processes, and their effect on physical symptoms in medical settings. We created a comprehensive life-stress interview that focuses on increasing awareness of the links between stress, emotions, psychological conflicts and physical health through use of experiential techniques. We hypothesized that engaging in life-stress interview would increase awareness and

motivation to change view of mind-body links and reduce physical and psychological symptoms. Participants were 62 women with chronic urogenital pain conditions recruited from a tertiary care clinic for women's urology. Participants were randomized to either the life-stress interview group or to a wait-list control group. Participants completed measures of physical health (BPI, PFDI-20-SF, PHQ-15, and GRA), psychological health (BSI and SWLS), and interpersonal difficulties (IIP-32) at baseline and 6-week follow-up. The life-stress interview was a one-session, 90-minute interview conducted by a trained interviewer.

ANCOVA analyses, controlling for depression, were conducted to determine the effects of the life-stress interview compared to a wait-list control group. Findings from this study suggest that a life-stress interview can be effective in improving health, specifically pain severity and pelvic floor symptom distress. Participants in the interview group showed increases in interpersonal domineering/control and decreases in vindictive/self-centeredness and social inhibition, suggesting the interview was effective in improving assertive, active engagement in interpersonal relationships, allowing for health balanced emotional expression and increased comfort in relationships. However, no effects were found on psychological health and only minimal effects were found on mind-body awareness. Participants in the interview group were less likely to attribute their pelvic symptoms to environmental causes and decreases in precontemplation of change, suggesting minimal shifts in mind-body awareness. In general, it appears that this novel, emotion-focused interview can be effective in improving health for women with chronic urogenital pain within tertiary care clinics for women's health. Further, this study suggests that for this complex patient group emotion-focused interviews can be a useful alternative to cognitive-behavioral interviews.

AUTOBIOGRAPHICAL STATEMENT

Jennifer Carty is currently a graduate student in the Clinical Psychology program at Wayne State University. She completed her both her Master's and undergraduate degrees in Psychology from Wayne State University in 2010 and 2008, respectively.

Jennifer's clinical interests are in the area of chronic pain, medically unexplained illnesses, and women's health, particularly within primary care. Her research interests are in the area of emotion-focused interventions for individuals with medically unexplained illnesses. Her graduate training has provided the opportunity to be an active member of the WSU Stress and Health Research Lab, assisting in clinical trails testing the effects of emotion-focused and experiential interventions for patients with a variety of medically unexplained illnesses. Jennifer is currently completing her predoctoral internship at the University of Colorado School of Medicine within the Family Medicine Department and will complete a two-year postdoctoral fellowship at the University of Massachusetts Medical School in primary care psychology.

Jennifer has gained additional experience at the Women's Urology Center at William Beaumont Hospital as a research assistant from August 2011 – August 2015. She has been involved in implementing a research protocol for all patients receiving treatment at the Women's Urology Center, and in research involving a one-week multidisciplinary, intensive treatment program. This experience has further developed her goals of becoming a clinical research scientist, largely focusing her interests in primary care psychology and issues related specifically to women's health with attention on emotion-focused interventions. Jennifer has also worked at Wayne State University teaching several courses to undergraduate students, including Introduction to Psychology Lab, Health Psychology, and Elements of Psychology.