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Mending Body & Soul: A Systemic Intervention for Women with Childhood Sexual Abuse

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LOMA LINDA UNIVERSITY
School of Behavioral Health
In conjunction with the
Faculty of Graduate Studies

Mending Body & Soul: A Systemic Intervention for Women with Childhood Sexual Abuse

by

Ginger G. Simonton

A Dissertation submitted in partial satisfaction of
the requirements for the degree
Doctor of Philosophy Systems, Families, and Couples

June 2019

Each person whose signature appears below certifies that this dissertation in his/her opinion is adequate, in scope and quality, as a dissertation for the degree Doctor of Philosophy.

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Contents

Figures

Chapter Two

Chapter Six

Tables

Chapter Five

Chapter Six

ABBREVIATIONS

BBFM	Biobehavioral Family Model
BPD	Borderline Personality Disorder
CI	Chronic Illness
CBT	Cognitive Behavioral Therapy
CSA	Childhood Sexual Abuse
DBT	Dialectical Behavioral Therapy
GAD	Generalized Anxiety Disorder
HRQOL	Health-Related Quality of Life
MAR	Missing at Random
MDD	Major Depressive Disorder
MEND	Mastering Each New Direction
PTSD	Post-Traumatic Stress Disorder
WHOQOL	World Health Organization Quality of Life

ABSTRACT OF THE DISSERTATION

Mending Body & Soul: A Systemic Intervention for Women with
Childhood Sexual Abuse

by

Ginger G. Simonton

Doctor of Philosophy, Graduate Program in Systems, Families, and Couples
Loma Linda University, June 2019
Dr. Brian Distelberg, Chairperson

Women with a history of childhood sexual abuse experience a host of biopsychosocial consequences. These consequences begin in childhood and spiral into adulthood through repeated relational patterns that engender chronic illness, and mental and socio-relational issues. These consequences are extensively documented in the historical literature however few interventions are designed to provide relief from the functional decline and poor health-related quality of life experienced by survivors of childhood sexual abuse. This study examined the ability of the MEND psycho-social, family-based intervention to improve biopsychosocial functioning and health-related quality of life in women survivors. The study utilized two specific analyses. The first analysis employed a multiple case study method while the second analysis employed a multiple linear regression method. These inductive and deductive approaches demonstrated the ability of the MEND intervention to improve health-related quality of life in women with and without a history of childhood sexual abuse equally.

CHAPTER ONE

INTRODUCTION

This dissertation examined the ability of a biopsychosocial, family-based intervention to improve health related quality of life in women presenting with chronic illness and comorbid mental health and socio-relational issues who report a history of childhood sexual abuse (CSA). Chronic illness is a pervasive issue in women's health impacting functioning across multiple domains of life. Studies have shown prevalence rates of chronic illness increase with a history of childhood sexual abuse (CSA) but few studies highlight interventions that ameliorate documented symptomology (Price, Hilsenroth, Petretric-Jackson, & Bonge, 2001; Paulucci, Genuis, & Violato, 2001; Wegman & Stetler, 2009).

Mastering Each New Direction (MEND: Tapanes, Distelberg, Williams-Reade, & Montgomery, 2015) is an intensive outpatient program designed for the treatment of chronic illness and comorbid mental health issues. MEND has demonstrated results in the treatment of pediatric chronic illness although research is needed to expand these findings across an adult population (Distelberg, Emerson, Gavaza, Tapanes, Brown, Shah, & Williams-Reade, 2016; Distelberg, Williams-Reade, Tapanes, Montgomery, & Pandit, 2014). This dissertation employed a multiple case study approach with quantitative and qualitative data to demonstrate the ability of MEND to improve health related health related quality of life (HRQOL) in women presenting with chronic illness who report a history of childhood sexual abuse (CSA).

Problem

Estimates show between 20 to 30 percent of women experience some form of CSA (Trask, Walsh, & DiLillo, 2010; Irish, Kobayashi, & Delahanty, 2010). CSA is uniquely positioned within the study of child abuse because of the long-term implications to physical and mental health (Irish, Kobayashi & Delahanty, 2010; Paolucci, Genuis, & Violato, 2001). More than other types of child abuse, CSA appears to generate a specific host of symptoms that impact biopsychosocial functioning (Trask, Walsh, & DiLillo, 2010). While not all women report long term consequences associated with CSA, studies show that significant proportions of women experience disparities in physical and mental functioning (Kendall-Tackett et al., 1993). For these women, the consequences of CSA begin at the time of trauma and extend over the lifespan through the presentation of stress-related health issues including chronic illness and comorbid mental health diagnoses (Felitti, 1998).

Women who acknowledge CSA often report debilitating and painful illness activity which takes the form of chronic illness (Springer, Sheridan, Kuo, & Carnes, 2003). These women are often subject to cumbersome and painful treatment regimens, uncomfortable illness maintenance protocols and hospitalizations that create disruptions in family, work, and social functioning (Wegman & Stetler, 2009; Herzer, Godiwala, Hommel, Driscoll, Mitchell, Crosby, Piazza-Waggoner, Zeller, & Modi, 2010). The burden of chronic illness creates a cyclical pattern, wherein stress leads to chronic illness which exacerbates illness activity and results in added stress. To this end, women with stress and chronic illnesses often report depression and anxiety concurrent with their physical symptoms (Farr, Bitsko, Hayes, & Dietz, 2010).

This scenario is particularly relevant when considering a third stressor. Specifically, the presence of CSA. It seems possible that women with a CSA history have a higher prevalence of chronic illnesses, or at least a disproportional negative impact from chronic illness (Felitti, 1991; Wegman & Stetler, 2009; McCarthy-Jones & McCarthy-Jones, 2008). The negative impact of CSA on a woman's health is manifest through a number of predominant health issues that are often chronic in nature. CSA has been associated with outcomes of: poor general health, gastrointestinal difficulties, gynecological pain, general pain, cardiopulmonary disease, and obesity (Irish, Kobayashi, & Delahanty, 2010).

Women who report CSA have a higher likelihood of somatic sequelae which reduces quality of life through complex illness activity. CSA has been known to increase diagnoses of fibromyalgia, irritable bowel syndrome, chronic fatigue syndrome, migraines, and chronic pain syndrome (Finestone, Stenn, Davies, Stalker, Fry, & Koumanis, 2000; Irish, Kobayashi, & Delahanty, 2010). The inclusion of somatic illnesses creates an additional layer of symptomology, and pathology for the CSA survivor resulting in increases in stress, illness activity and healthcare utilization (Felitti, 1991; Springer, Sheridan, Kuo, & Carnes, 2003).

In addition to physiopathology, CSA often results in long-term mental health diagnoses that further impede functioning and exacerbate stress and chronic illness activity. Women impacted by CSA experience struggles with serious mental health diagnoses including major depressive disorder, general anxiety disorder, substance abuse disorder, and post-traumatic stress disorder (Springer, Sheridan, Kuo, & Carnes, 2007; Fergusson, Boden, & Horwood, 2008). In many cases, CSA has been associated with higher levels of suicidal ideation and completed suicides (Paolucci, Genuis, & Violato, 2001; McCarthy-Jones & McCarthy-Jones, 2008). Studies show CSA results in a proclivity for guilt and shame, isolation, maladaptive sexual encounters, and self-harm behaviors (Feerick & Snow, 2005). Equally painful are interrelated maladaptive beliefs about self-worth that impact a women's overall self-concept and strengthen the propensity for dangerous behaviors and potential revictimization (Wegman & Stetler, 2009: Arias, 2004).

The effects of CSA, stress, chronic illness and comorbid mental health problems result in a complex and interconnected tapestry of illness activity that impedes health related quality of life across multiple domains. Many studies referenced above have examined the interconnected consequences of CSA on women over the life span. These studies have provided empirical evidence to support the correlation between CSA, stress, and adverse physical and mental outcomes. An examination of this literature reveals the need for a biopsychosocial, family-based intervention specifically designed to reduce stress and ameliorate chronic illness activity in women reporting CSA.

Presently, group therapy and individually-based behavioral therapy such as Dialectical Behavioral Therapy and Cognitive Behavioral Therapy exist to treat the psychosocial injuries of CSA (Hall & King, 1997; Steil, Dyer, Priebe, Kleindienst, & Bohus, 2011; Putnam, 2003). These interventions have demonstrated results in psychological and social functioning, however they are not amenable to chronic illness. Additionally, these interventions do not apply a systemic framework capable of treating the CSA survivor and the family in which she is nested. Current findings suggest the use of a family-based approach has been effective in neutralizing the effects of chronic illness

(Ellis, Frey, Naar-King, Templin, Cunningham, Cakan, 2005). To this end, family-based approaches have been linked to better health related outcomes through increased treatment sustainability and stronger post treatment outcomes (Distelberg, Williams-Reade, Tapanes, Montgomery & Pandit, 2014: McBroom & Enriquez, 2009). At this time, the literature lacks evidence for a systemic intervention capable of reducing the demonstrated consequences of CSA across biopsychosocial domains of health.

Background

The background section further conceptualizes CSA, stress, and chronic illness. Attention is given to each of these variables in an effort to provide definitions and theoretical underpinnings. Woven throughout the section is information to support the relationship between CSA, stress, and chronic illness. Lastly, the MEND biopsychosocial intervention is introduced to highlight the way a systemic intervention can be useful in reducing stress and improving biopsychosocial issues. These topics come together to demonstrate the importance of a study of this nature.

Childhood Sexual Abuse

Multiple definitions of CSA exist within the current body of literature. These definitions strive to capture the various ways in which a child can be abused through unsolicited sexual activity. The Center for Disease Control (CDC) lists CSA as one of four common types of child abuse. The CDC defines CSA as “inducing or coercing a child to engage in sexual acts” that include “fondling, penetration, and exposing a child to other sexual activities” (2017). The CDC definition is relevant to this study because it considers the varying types of CSA perpetrated by a caregiver, or a person in a custodial role.

CSA is often conceptualized in terms of abuse severity. The scope of abuse severity often begins with sexualized language and ends with intercourse. The long-term consequences of CSA vary depending upon the type of abuse and the frequency of occurrence. Various studies have categorized CSA and its associated negative outcomes based upon this criterion (McCarthy-Jones & McCarthy-Jones, 2008). These studies have created distinctions in CSA to better understand how the various typologies of abuse correlate to women's health.

CSA severity has been noted as a determining factor in health-related outcomes however, severity is not the only consideration. Of equal importance is the inclusion of abuse frequency and duration (Felitti, 1998; Dong, Anda, Felitti, Dube, Williamson, Thompson, Loo, & Giles, 2003; Edwards, Holden, Felitti, & Anda, 2003). Consideration of the implications of abusive episodes over time aids in conceptualization of CSA symptomology as researchers demonstrate correlations between CSA frequency and severity as they relate to corresponding illness activity (Steine, Winje, Krystal, Bjorvatn, Milde, Grønli, Nordus, & Pallesen, 2017; Min, Minnes, Kim & Singer, 2013).

The Implications of Stress

The connection between CSA and illness activity is due in large part to repeated activation of the biological stress response beginning at the time of trauma and extending into adulthood. Researchers found an increase in "pituitary-adrenal and autonomic responses to stress" when compared to a control group of non-abused women (Heim, Newport, Heit, Graham, Wilcox, Bonsall, Miller, & Nemeroff (2000). The stress response functions as a reaction to external stimulus and internal drives (Sapolsky, 2004). Beginning in the thalamus of the brain, stress responses prepare the body to mobilize in times of crisis. Traumatic events in childhood including physical, sexual, and emotional abuse and neglect, activate the stress response process resulting in the development of a hyper-vigilant state (Heim et al., 2000).

Stress is any stimuli that moves the body away from a state of homeostasis and into a stress response process (Sapolsky, 2004). Homeostasis can be conceptualized as a physiological state whereby an individual's body is functioning in balance (Kaplan & Sadock, 1998). The stress response is merely the body's process of restoring homeostasis through the release of hormones necessary to mobilize and activate the body in times of crisis (McEwen, 2017). Allostasis is the body's process of maintaining balance in times of change as the body responds to "predictable and unpredictable events" (McEwen, 2003, p. 2). Allostasis attempts to keep the body in homeostasis although this process is not with a cost to physical and mental well-being. Allostatic overload is the burden or cost placed on the body through extended periods of allostasis (McEwen, 2017). A major contributor to allostatic overload is related to the expending of significant amounts of energy (used for allostasis) in times of social dysfunction and conflict.

McEwen and Wingfield (2003) posit that prolonged periods of allostatic overload result in pathology (McEwen & Wingfield, 2003; McEwen, 2017). Findings have demonstrated physiological pathways linking prolonged stress exposure to catabolic biological processes that increase the propensity for illness and related symptomology (Sapolsky, 2004). Because stress levels are known to be higher in female victims of CSA there is a greater propensity for allostatic overload and subsequent illness activity.

Chronic Illness

Understanding the fullness of chronic illness is important when conceptualizing the implications of CSA on women's health. Definitions of chronic illness have attempted to articulate the typology, symptomology and duration of prolonged illness activity (Bernell & Howard, 2016). The U.S. National Center for Health Statistics defines chronic illness as any disease process lasting longer than three months (2014). Their definition is useful to this study because it allows for inclusion of both physical and somatic illness activity; each of which has been linked to health outcomes in women who have experienced CSA.

CSA is manifest in a woman's physiology through negative consequences to physical and mental health. These consequences are extensively explored in the literature (Wegman & Stetler, 2009; Springer, Sheridan, Kuo, & Carnes, 2003; Irish, Kobayashi, & Delahanty, 2010). Findings from empirical studies suggest that CSA correlates to increased levels of chronic illness including cancer, heart disease, lung disease, skeletal fractures, liver disease, obesity, GI disorders, and chronic pain (Felitti, 1998; Irish, Kobayashi, Douglas, & Delahanty, 2009). To this end, women with a history of CSA have a greater utilization of medical care services including an increase in hospital visits, doctor's visits, and surgeries (Felitti et al., 1991; Hulme, 2000; Finestone et al., 2000).

The scope of CSA severity and frequency has been linked to chronic illness activity. A study performed by McCarthy-Jones & Mc-Carthy-Jones, 2008 (n=3,486) compared health outcomes in women based on abuse type and severity against a control group of non-abused counterparts. Their findings corroborate existing data correlating abuse severity to physical health outcomes. For example, participants reporting CSA intercourse demonstrated a total association between cardiovascular disease, migraines, bladder problems, various bodily pains, and asthma. Participants reporting CSA intercourse also had indirect associations between allergies, arthritis, bronchitis, stomach ulcers, anxiety and depression. Participants reporting CSA touch reported no direct association between cardiovascular disease and bladder problems, however they did show direct associations with allergies, arthritis, bronchitis, and stomach ulcers.

The implications of CSA on women's health result in decreased biopsychosocial functioning and increased overall dissatisfaction in health-related quality of life. Health related quality of life is defined as a person's perception of physical and mental health as it is nested within their specific cultural and value-based context (CDC, 2016; Skevington, Lofty, & O'Connell, 2004). The term HRQOL extends beyond physical and mental health outcome measures to include the impact of health on overall quality of life. The concept of HRQOL is particularly salient when conceptualizing the overall health experience of women who have suffered CSA. Studies show women who report CSA have greater negative perceptions of health than non-abused counterparts and greater illness activity (Irish, Kobayashi, & Delahanty, 2010; Hulme, 2000; Finestone et al., 2000).

The information provided to this point demonstrates the fullness of negative consequences of CSA for women who have experienced this type of maltreatment. This information paints a picture of the deleterious implications of CSA across multiple domains of physical and mental health. When examined with a myopic lens it could appear these consequences are forever intertwined in a women's lived experience tainting all aspects of her narrative with underpinnings of reduced functioning and pain, however this does not have to be the case. Alfred Adler believed that everything could also be different (Stein, 2008). This message of hope extents to women with CSA through the potential of a family systems intervention to ameliorate physical, mental and social health symptomology through a reduction in stress and an increase in HRQOL. With that premise in mind, Mastering Each New Direction (MEND) is introduced.

Mastering Each New Direction (MEND)

MEND (Tapanes, Distelberg, Williams-Reade, & Montgomery, 2015; Distelberg et al., 2014; Distelberg et al., 2016) is an intensive outpatient program created for the treatment of biopsychosocial stressors that arise through chronic illness and pain (CI). The MEND model was designed to bring greater functioning to individuals and families dealing with CI. The model strives to reduce individual and systemic stress, increase treatment adherence and reduce the mental health comorbidities associated with CI. Typical MEND adult patients struggle with CI and comorbid psychological illness (e.g.: major depressive disorder, generalized anxiety disorder, and PTSD). MEND patients also struggle with various relational, financial, and occupational issues that inhibit physical, emotional, and social functioning, increase stress and exacerbate disease activity.

MEND utilizes a multidisciplinary approach that integrates family therapists, psychologists, psychiatrists, researchers, and students. The MEND model is a systemic intervention designed to improve quality of life for chronically ill children, adolescents, and adults. MEND treatment is carried out over a 21 session/7-week intensive outpatient program. Treatment sessions are 3 hours in duration and consist of group check-in, individual interventions, and multifamily group. Each of the MEND treatment sessions is facilitated in a group setting operating as a bidirectional process that provides patients and their families with strength, hope, and experience.

MEND is designed to treat individuals and families through the integration of macro and micro theories that function in tandem. MEND therapists target “maladaptive stress and coping patterns” that prevent healthy adjustment to disease regiments (Distelberg et al., 2014, p. 196). Systemic theories inherent in the MEND model include ecological theory, biopsychosocial theory, biobehavioral theory, and neuroception theory. Each of these theories are woven into the MEND model to address the needs of medical complexity and comorbid psychological issues.

Objectives

This study is a multiple case study analysis designed to examine the manner in which women with a history of CSA experience greater levels of stress resulting in chronic illness and comorbid mental health issues. The study considered how increased stress from CSA exacerbates chronic illness and mental health issues in women. As such, particular attention was paid to stress as a linkage between CSA, illness activity and reduced HRQOL. In addition, the study evaluated the ability of the MEND intervention to improve HRQOL through improved physical and mental health in the designated population. The case study design allowed an opportunity to demonstrate individual outcomes pre to post MEND treatment while comparing and contrasting findings within and between the various participants. A primary goal was to replicate findings across the cases using an inductive approach that considered findings for the premise of generalization (Yin, 2003).

All study participants were women who acknowledged CSA, reported at least one chronic illness in conjunction with comorbid mental health issues. In addition, all participants completed the MEND intensive outpatient program. Outcomes were measured through qualitative data maintained in patient records by the MEND multidisciplinary staff from intake to discharge. This data was comprised of intake assessments, psychosocial assessments, therapist notes, physiatrist notes, and treatment updates. This data was reviewed and summarized for relevant findings that exist within and between the individual cases (Yin, 2003). The study focused on the participant's experience in the MEND intervention as they moved through the phasic process addressing issues of CSA, stress, and issues of physical, mental and socio-relational health. Progress was tracked through therapeutic milestones and setbacks and the fulfillment of treatment goals.

A deeper exploration of the case study was performed through a quantitative analysis using pre to post data from the WHOQOL-BREF. This quantitative data was braided within the qualitative data to provide a robust analysis of the MEND intervention. The results highlighted the ability of MEND to improve the HRQOL in women who experienced CSA. This study was framed around two specific aims that resulted in two publishable papers. The original specific aims are listed below.

Specific Aim 1: The MEND biopsychosocial, family-based intervention will demonstrate an increase in HRQOL in women with CSA who report at least one CI and comorbid mental health and socio-relational issues.

Specific Aim 2: A quantitative evaluation of CSA experiences in MEND through a multiple linear regression analysis that will examine the ability of the MEND intervention to improve HRQOL as measured by the WHOQOL-BREF total score in female patients with/without CSA who report at least one chronic illness and a comorbid mental issue equally.

Hypothesis: Those with or without a history of CSA will show similar improvements pre to post equally as measured by the WHOQOL-BREF.

CHAPTER TWO

CONCEPTUAL FRAMEWORK

Mastering Each New Direction (MEND) was created as a biopsychosocial, family-systems intervention for the treatment of chronic illness (Tapanes, Distelberg, Williams-Reade, & Montgomery, 2015). MEND was designed to consider the individual and the family within the various systems in which they are nested. MEND is a phasic intervention that relies upon multiple systemic theories. These theories include: Ecology Theory, Biopsychosocial Theory, Biobehavioral Family Therapy, Structural Family Therapy, Adlerian Theory, and Narrative Therapy. Each of these theories contribute to the overall design of the MEND intervention. The macro theories contribute through the formation of a conceptual framework that supports the overall ideation of the MEND model. The micro theories provide a basis for family-based interventions that facilitate second order change in accordance with the conceptual framework. Together, the theories and interventions synthesize to form the MEND biopsychosocial, family-based intervention. This chapter provides an overview of the MEND model through a summary of the four phases of MEND. The chapter then considers the various macro and micro theories that support the MEND model.

An Overview of the MEND Model

The MEND model is designed to mitigate individual and familial stress through a series of four phases. These phases are designed to address areas of distress that inhibit biopsychosocial functioning. Since the MEND intervention was created within a biopsychosocial and ecological framework, the process of reducing stress extends beyond individual stressors to incorporate larger systemic issues. Each patient and their family enters the MEND intervention at Phase 1. Successful completion of the intervention culminates with graduation from phase 4 (Tapanes, Distelberg, William-Reade & Montgomery, 2015). A summary of the four phases is contained below.

Phases of the MEND Model

Phase 1: Orientation, assessment, and language.

Phase 1 consists of patient orientation, assessment and language learning (Tapanes, Distelberg, William-Reade & Montgomery, 2015). During phase 1 the therapist has three primary steps. The first of these steps is to orient the patient into the peer group while developing a relationship with the patient and their family. The second step is to evaluate and assess the patient's specific biopsychosocial illness profile. This includes becoming aware of illness protocols as well as illness meanings, major stressors (e.g.: childhood trauma, and family of origin dysfunction) systemic functioning, and the role of illness within the family system. The third step is a language learning process. Language learning provides the therapist with physiological information about the patient and their family system. Language learning allows the therapist to uncover areas of stress in the life of the patient that exacerbate illness activity and inhibit biopsychosocial functioning. During language learning the therapist monitors the patient's stress responses through observance of psychogenic cues that function as visible manifestations of stress exhibited by the patient's physical body. Psychogenic cues are different for each patient but often include changes in complexion, muscle twitches, tightening of the body, variations in speech, and anxious movements such as leg or finger tapping.

The information gathered in Phase 1 of the Mend intervention is vital to the patient process because it allows for an evaluation of the patient's stress levels over the course of treatment. Psychogenic cues noted in Phase 1 are used to test and re-test stress responses exhibited by the body around key areas of biopsychosocial distress. Reductions in stress responses are indicative movement through the MEND intervention.

Phase 2: Introspection and congruence. Phase 2 consists of 5 steps that encourage introspection and congruence (Tapanes, Distelberg, William-Reade & Montgomery, 2015).

Step 1 is designed to facilitate mind and body connections through the processes of interoception and introspection. In accordance with the MEND model, interoception is the process of paying attention to and tending to the body's physiological responses such as tension in the body, or changes in respiration or complexion. Siegel writes that interoception is the "skill of perceiving the interior of our body" (2010, p. 44). Introspection on the other hand, addresses the mental and emotional states as they function collectively. Patients in Step 1 work with the therapist to develop an understanding of emotional and physiological processes as they are encouraged to identify and access unconscious processes that connect emotions, and psychogenic cues. This process initially unfolds during one on one sessions, and as mind and body connections are made the patient will begin to integrate their awareness and new skill set into the peer group.

Step 2 consists of language development wherein patients are encouraged to identify and verbalize burdens that have been previously been held within the body. Through a process that often includes neuro-integration, patients identify how burdens are manifest within the physical body, their emotional content and the associated meaning. This process works to integrate mind and body connections through a threefold process. The first of these processes is vertical integration wherein somatic information is moved up through the body to the right hemisphere of the brain (Siegel, 2010). This information is horizontally integrated as somatic and emotional processes are given language. Lastly the information is temporally integrated wherein the mind and body connection previously established through vertical and horizontal integration is given an associated meaning. This process is particularly salient when addressing issues of trauma related to chronic illness or family of origin distress. The process allows the patient to continue to develop a more robust relationship with their body through an understanding of physio-psycho process that were previously maintained either below the level of consciousness or at a minimum kept from awareness.

This externalization process is supported by the MEND therapist and the peer group thus allowing for validation and normalization of congruent expression. As language development grows and accurate meanings are cultivated, patients practice using their voice to get their needs met both within the peer group and then the family system.

Step 3 is designed to further support congruence as patients continue to harmonize physical, emotional, and verbal processes developed in Step 2. In addition, Step 3 supports congruence across larger social domains including work, school, and community involvement. Step 4 focuses on testing stress responses and supporting healthy changes around congruence, language development, and newly created meanings. Step 5 provides systemic support as the family is encouraged to move towards healthy and congruent behaviors and away from maladaptive needs directed behaviors that previously engendered internalization and maladaptive behaviors.

Phase 3: Meaning and expression. Phase 3 of the MEND intervention is comprised of two steps that focus on solidifying the changes developed in Phase 2 and evaluating the sustainability of these changes (Tapanes, Distelberg, Williams-Reade & Montgomery, 2015). Because of the role of homeostasis within family systems, Phase 3 is designed to provide additional support for the healthy changes developed in Phase 2. Supporting these changes is performed by assessing the application of changes in meaning, continuing to cultivate language development, testing and re-testing stress around identified burdens and associated meanings, and monitoring of physiological responses to change (e.g.: changes in psychogenic cues around previously identified meanings). The family system is actively involved in Phase 3 as they are monitored for systemic changes in meanings as well as their ability to support healthy functioning.

Phase 4: Mastery and maintenance. In phase 4 of the MEND model, patients and their family systems participate in a process of highlighting the change process and identifying familial strengths (Tapanes, Distelberg, William-Reade & Montgomery, 2015). Phase 4 also works with the patients to anticipate future challenges that arise after treatment. In addition, patient referrals are provided for ongoing care. Lastly, graduation occurs as a way to provide patients and families an opportunity to reflect on their success and growth over the course of treatment.

Ecology Theory

Ecological theory has been used as a conceptual framework in the study of illness for several decades (Kazak & Nachman, 1991). This theory has been incorporated into health-related literature because of the comprehensive nature of ecology perspectives. To this end, proponents of ecological theory posit that the framework provides a robust view of health that considers an individual within an interdependent network of social and physical environments (Stokols, 1996; Moos, 1979). Grzywacz & Fuqua (2000) conceptualize ecology theory as “an interdependent, multidimensional, multilevel, interactional view of the etiology of individual or community health.”

In addition to public health research, family therapy models have recognized the benefits of an ecological lens in the treatment of pediatric CI (Kazak & Nachman, 1991). These models have demonstrated positive results in their ability to reduce illness related family conflict, increase treatment adherence and reduce psychosocial stressors (Distelberg et al., 2014; Wysocki, Harris, Buckloh, Mertlich, Lochrie, Mauras, & White, 2007; Ellis, Naar-King, Chen, Moltz, Cunningham & Idalski-Carcone, 2012). The benefits of integrating an ecological framework into a family-based intervention are due in large part to a multisystemic approach to illness. This multisystemic approach recognizes the importance of various systems that interface with the parental and child subsystems (Kazak & Nachman, 1991). Once these systems are recognized, interventions can be created to aid in the navigation and management illness.

Ecological theory bifurcates the larger social system into nested, interrelated subsystems (Bronfenbrenner, 1979). These subsystems influence and inform one another through a bidirectional process that circulates information within and between the subsystems (Schoenwald, Henggeler, & Rowland, 2016). The environmental systems are therefore reciprocal in nature and share interconnected beliefs and behaviors (Bell, 1968). In accordance with Bronfenbrenner’s theory, the environmental systems are comprised of four concentric rings that come together to form the larger social system. The individual subsystems are comprised of the micro, meso, exo, and macro levels.

The macrosystem contains cultural, and societal norms as well as social policies that inform an individual about what is considered normative within a larger cultural and societal context (Manning, Hemingway, & Redsell, 2014). The exosystem contains occupational, educational, and healthcare systems and is therefore capable of influencing health related attitudes, beliefs, and behaviors (Bronfenbrenner, 1979). The mesosystem acts as a constellation of microsystems such as an individual's school, place of work, or specific health care system. The microsystem contains the family in which an individual is nested. The family is responsible for navigating attitudes and beliefs about illness received from larger systems. Additionally, the family maintains its own set of beliefs and attitudes about illness and health.

The benefits of an integrated ecological, family-based theory are demonstrated in the literature as it relates to pediatric CI. This study proposes that an integrated ecological, family-based theory would also demonstrate positive health outcomes in the treatment of women who report CSA with concurrent physical and mental illness. Women who report both CSA and CI exist within a complex ecological model that contains multiple messages across multiple systems. These women are informed by the social systems about the stigmas, familial beliefs, and gendered issues related to CSA. Additionally, they are informed by multiple social environments about health-related attitudes and beliefs. For example, current macrosystem influences suggest that CSA and CI are two distinct and separate issues. Therefore, the macrosystem encourages the CSA survivor to have her CI treated by a different provider than her CSA and the two would never intersect.

An integrated ecological, family-based intervention is capable of recognizing the CSA survivor within her social environments. The MEND model integrates an ecological perspective into the treatment of women who acknowledge CSA and concurrent CI. This integration positions MEND as a treatment intervention for women struggling with the consequences of CSA.

Biopsychosocial Model in the Treatment of Pediatric Chronic Illness

The ability of the MEND model to address the health-related quality of life in women who acknowledge both CSA and CI is due in part to the inclusion of specific theories. MEND has drawn upon aspects of biopsychosocial theory as well as aspects of ecology theory. The integration of biopsychosocial theory into ecology theory allows for inclusion of an individual's internal system. The result of the integrated theory is a multidimensional, systemic conceptualization capable of recognizing the four levels of ecology as well as the biological, psychological, and social systems of individual health. From this integrated theory, MEND is able to consider the implications of CSA on a woman's lived experience and subsequently address quality of life issues across multiple domains of ecology and biopsychosocial functioning.

The parsimonious nature of the biopsychosocial model supports the relationships between CSA and multiple domains of health and functioning. The biopsychosocial model frames health and functioning as the result of connections within and between biological, psychological, and social variables (Gatchel, 2005). To that end, multiple studies have considered the consequences of CSA through biopsychosocial measures and or theory in order to capture the totality of CSA on women's health (Thibodeau, Lavoie, Hebert, Blais, 2017; Coates, 2010). Their findings link CSA to a disproportionate level of biopsychosocial consequences that include increases in “biological, neurological and psychological compromise” (Coates, 2010, p. 392). Conceptualization of these limitations from a biopsychosocial lens considers these consequences from a multisystemic perspective that recognizes the interconnected nature of CSA on health and functioning.

The biopsychosocial model of care was created by George Engel in 1977 as a move toward systemic treatment of the whole person within the healthcare system. Engel’s work confronted the predominant biomedical model by challenging the healthcare system to move beyond the “mind-body dichotomy” by considering the various domains of the patient’s experience (Roy-Byrne, 2004, p. 500). Engel’s argument was evidenced by the biomedical model’s reliance on the analytical underpinnings of the scientific method. Engel ascertained that the biomedical model failed to “include the patient and his attributes as a human being” and subsequently restricted patient care to the myopic and compartmentalized analysis of an individual unit of a much broader and interconnected system” (Engel, 1980, p. 536).

Engel (1980) posited that the biopsychosocial model stretched medicine beyond the analysis of biological attributes inherent in the “classic factor-analytic approach” through an integration of biological, psychological, and social domains of a patient’s lived experience” (p. 535). Using Weiss and von Bertalanffy’s hierarchical systems theory as a guide, Engel proposed a dramatic shift in medicine through the inclusion of systemic principles in the application of patient care. Engel’s theory proposed that the same processes that govern the cellular system extend to the body, the mind, and the social environment (Roy-Byrne, 2004). This ideology frames pain, stress, and disease within a larger societal context. In practice, the biopsychosocial model offers a way of conceptualizing the fullness of the patient's experience as a contributor to patient care, effective pathology, and physical health outcomes (Borrell-Carrio, Suchman, & Epstein, 2004).

In a study published by the Journal of General Internal Medicine, medical residents provided with intensive training in the biopsychosocial model demonstrated improvements in "attitudes, skills, and self-awareness" (Smith, Marshall, & Cohen-Cole, 1994, p.390). Researchers ascertain the incorporation of the biopsychosocial model in physician training created greater communication between doctor and patient resulting in higher levels of patient satisfaction (Smith et al., 1995). Given the potential for physician/patient attunement and greater patient satisfaction, one could see the usefulness of the model in patient care however, the biopsychosocial model has faced resistance over the past several decades.

Researchers propose resistance is likely due in part to an inability to coalesce the distinct elements of the model (Roy-Burne, 2004). Additionally, there is evidence to suggest that resistance may be linked to the current managed care system that prioritizes efficiency through cost management techniques (Biderman, Yeheskel, & Herman, 2005). Various studies have illuminated the cost benefit of systemic interventions including the biopsychosocial model of care although more work is necessary to create a stronger case for application (Crane & Payne, 2011).

Engel ascertained "nothing exists in isolation…every system is influenced by the configuration of the systems of which each is a part" (Hodgson, Lamson, Mendenhall, & Crane, 2014: Engel, 1980, p. 537). This conceptualization is fundamental in understanding the quality of life in women who acknowledge CSA and CI. Women with a history of CSA experience a wide range of issues that extend well beyond childhood and into adolescence. These issues are shaped in large part by the impact of trauma on the brain and body during key developmental periods (Teicher, 2003). Understanding and treating these issues requires a theoretical framework capable to recognizing the implications of trauma on multiple domains of functioning. From this lens, biopsychosocial theory provides theoretical underpinnings that translate to effective treatment for women living with a history of CSA.

Biobehavioral Family Model

Ecology theory and biopsychosocial theory serve as frameworks informing and guiding the MEND family-based intervention. From these grand theories, MEND is able to conceptualize the multifaceted health related quality of life in women with a history of CSA by taking into account the systemic underpinnings of her experience. Inclusion of an additional macro theory allows for the integration of stress and stress related consequences into the existing ecology and biopsychosocial theories. The Biobehavioral Family Model (BBFM) provides a theory wherein the implications of stress on biopsychosocial functioning are considered as a systemic issue (Wood, 1993).

The inclusion of a stress related theory is necessary when considering the health-related quality of life in women who report CSA and concurrent physical and mental health illness. Stress has been noted in the literature as an overarching consequence of CSA (Coates, 2010). One study on neurodevelopment in abused children revealed severe stress can result in molecular and neurobiological effects that create long term changes in the brain's structure (Teicher, 2003, p. 70). The effects of brain restructuring include increased levels of stress in childhood and a general sense of hypervigilance that extends into adulthood (Briere & Scott, 2006). The increase in stress translates to biopsychosocial limitations in functioning and reduced overall health related quality of life outcomes.

The BBFM provides a theoretical framework capable of addressing stress and its associated implications on illness activity and the family system (Wood, 1993). The BBFM is an offshoot of biopsychosocial theory with demonstrated favorable treatment outcomes in pediatric chronic illness populations (Wood & McWey, 2011). The BBFM was designed with a pediatric population in mind, however, the inclusion of stress and family systems as a component of health extends to women who struggle with CSA and CI. CSA often results high levels of relational dysfunction over the lifespan. Studies show individuals who report CSA often experience increased levels of relational distress, reduced levels of satisfaction and reduced levels of relational stability when compared to non-abused counterparts (DiLillo & Long, 1999). Poor relational functioning results in increases to stress and associated physio and psycho pathologies. The BBFM is capable of addressing relational stressors that enhance CI activity CSA.

The Biobehavioral Family Model was designed by Beatrice Wood, PhD and associates in 1993. The original model created an integrated theory for the treatment of chronically ill children through recognition of social neurological theories that illuminate the interconnectedness of families struggling with pediatric CI. The original model "posits that family relational patterns and biobehavioral reactivity interact so as to influence the physical and psychological health of the children" (Wood, Klebba, & Bruce, 2000, p. 319). The model was revised in 1999 to include attachment theory as a critical component in the study and treatment of pediatric CI (Wood, Klebba, & Bruce, 2000).

The BBFM model is influenced by biopsychosocial theories as well as specific family theories. The integration of Minuchin's structural family therapy into the BBFM provides recognition of the interconnectedness of disease activity and family dynamic patterns (Minuchin et al., 1975). The inclusion of Bowlby's attachment theory recognizes the biological need for human connectedness in maintaining emotional regulation particularly in times of distress (Wood, Klebba, & Bruce, 2000).

The BBFM posits that family emotional processes are shared collectively and therefore interdependent in nature. The quality of the family climate and emotional reactivity in the family system influence emotional regulation and subsequently the health of the child and other family members (Wood, Klebba, & Miller, 2000). This process demonstrates the interrelatedness of the family and its individual members while highlighting the detrimental nature of stress on the health of the individual and the system in which they are nested. High levels of stress speak to the level of biobehavioral reactivity within the system. Biobehavioral reactivity (anxiety and depression) influence illness activity (See Figure 1 for theoretical model) (Wood, 2000; Wood, 1993).

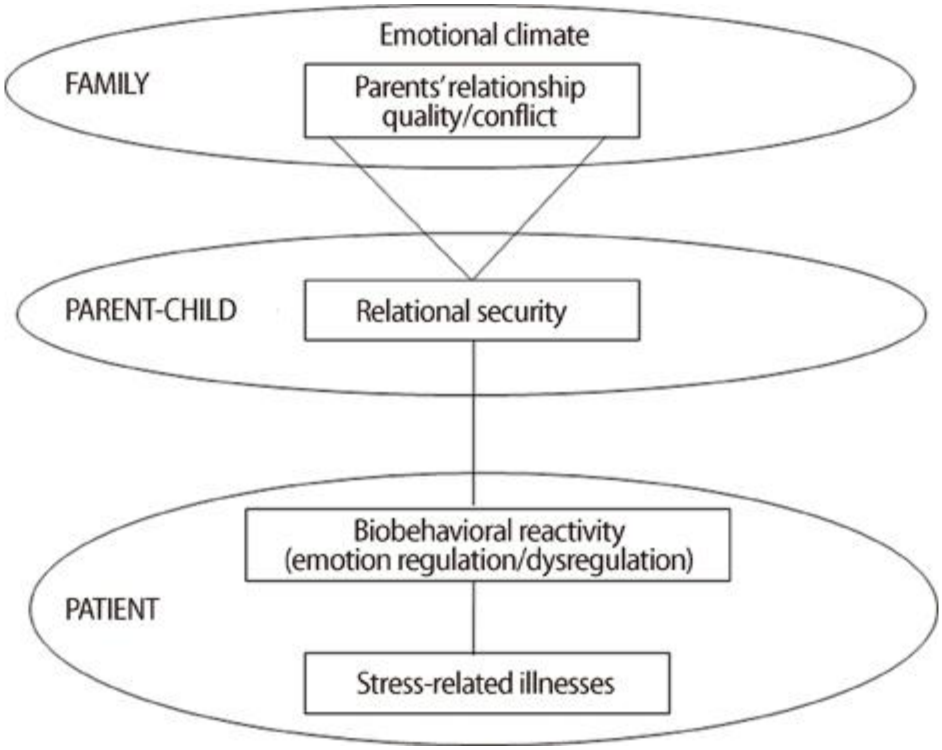

Figure 1 – Biobehavioral Family Model

The BBFM is a valuable integration into the treatment of women struggling with CSA and CI because it allows inclusion of the family system and the biological system. The model noted in Figure 1 can be explained from a mediation framework (Wood, 1993). Woods, Priest, & Roush (2014) explained "biobehavioral reactivity (anxiety and depression) mediates the relationship between family emotional climate and disease activity" (p. 672). Biobehavioral reactivity is defined as a "bidirectional pathway by which family patterns and disease processes influence one another" (Wood, 1993). Family emotional climate is defined as the intensity or positionality of negative feedback loops maintained by the family that create emotional processes held by family members. Disease activity defines health-related outcomes or illness activity. A direct effect exists between family emotional climate and disease activity. Biobehavioral reactivity (the mediating factor) is measured by emotional dysregulation (anxiety and depression) but moreover it is the ability of an individual to regulate individual emotional processes (Woods, Priest & Roush, 2014).

The tenants of the BBFM model extend beyond a pediatric population to include CI as it relates to women who have faced CSA. The multifaceted nature of BBFM implies that family systems can be integrated into the treatment of CI as it impacts women who struggle with a history of CSA. The model highlights the implications of systemic stress and the deleterious effects of stress on the health of the family system and subsequently the health of the survivor. Additionally, the BBFM demonstrates areas where illness narratives created by the survivor have been generated through the bidirectional nature of systemic stress.

Summary of Macro Theories

Each of the grand theories examined above are synthesized into a conceptual framework that supports the MEND intervention. This framework considers the levels of ecology, the domains of biopsychosocial health and functioning, and the relevance of familial stress in the understanding of CI. These theories coalesce in a funnel-like approach that begins with the macro-system and ends with the individual internal system. The result is a comprehensive understanding of the multidimensional process of CI as it relates to women with a history of CSA. This integrated framework acts as the umbrella of the MEND model. Under this umbrella, the MEND model has called upon the tenants of various family therapy theories in an effort to capture the spirit of the integrated framework and bring it into practice.

Psychosocial Treatment of Pediatric Chronic Illness

The creation of second order change in families wherein the woman has survived CSA is critical to improving health-related quality of life. This is due in part to the negative relational consequences of CSA. Prior studies ascertain that individuals with a history of CSA often long for relationships grounded in secure attachment however, these relationships are difficult to facilitate due to the psychosocial consequences of CSA (Nasim & Nadan, 2013; MacIntosh & Johnson, 2008). Studies show that CSA survivors were more likely to report relational issues, more likely to divorce, more likely to feel isolated, and had a higher likely hood of marrying a potentially abusive partner (Davis & Petretic-Jackson, 2000; DiLillo, 2001; Rumstein-McKean & Hunsley, 2001). These findings are indicative of the lasting consequences of CSA on biopsychosocial functioning. However, interpersonal relationships have the capacity to neutralize the deleterious implications of CSA on survivors (Nasim & Nadan, 2013: Runtz & Schallow, 1997; Whiffen, Judd, & Aube, 1999). Therefore, creating effective, family-based interventions is critical to improving the quality of life in CSA women survivors.

Inherent in the MEND model are family therapy theories that support a reduction in maladaptive stress and an increase in psychosocial functioning and health-related quality of life (Tapanes, 2016). These theories are psychosocial in nature and provide modern and postmodern tenants that support healthy familial relationships. The theories roll up under the larger conceptual framework of the MEND model through a synthesis of interventions capable of creating second order change. Family therapy theories included in this discussion are Structural Family Therapy, Adlerian Theory and Narrative Family Therapy.

Structural Family Therapy

Structural Family Therapy (SFT) is an effective psychosocial modality for the treatment of CI particularly when families are systemically rigid or struggling with communication issues (Hammond & Nichols, 2008). Minuchin first outlined SFT's paradigm for the treatment of pediatric CI in an article published in 1975 in the Journal of American Medical Association. In this article, Minuchin and colleagues examined processes in families with psychosomatic children. His seminal work considered illness activity and family dynamic patterns as well as structural issues precipitated by illness.

Clinical application of SFT principles in women with CSA and CI allows for a systemic approach capable of describing family structure and creating necessary familial organizational adjustments to support lasting change (Vetere, 2001). SFT provides a basis for strengthening familial subsystems while also restructuring problematic patterns and increasing effective communication (Hammond & Nichols, 2008). The results of this work have been demonstrated in the current body of literature as capable of increasing familial cohesion and reducing stress through an increase in familial functioning (Vetere, 2001).

Adlerian Theory

The MEND intervention is applied within a group setting that integrates key components of Adlerian group therapy theories. Adler's belief that learning is related to action serves as a theoretical underpinning of the group therapy approach (Songstegard & Manford, 1998). Group members provide validation and support to peers through directional processes of strength, hope, and experience. Additionally, Adlerian theories support the use of social connection and peer positioning wherein group members interact with one another while aiding in the creation of re-orientated meanings. Application of Adlerian group therapy theory enables a goal directed therapeutic session whereby the benefits of bidirectional processes are maximized for patient growth in individual and multifamily sessions (Tapanes, 2016). The bidirectional process is particularly effective in women with a history of CSA and CI. Group members are able to share their experiences with the peer group who is then able to share in similar experiences when they exist and validate process as appropriate.

Narrative Family Therapy

Narrative Family Therapy is a postmodern model that has been integrated into the MEND intervention (White, 2007). The integration of Narrative Therapy allows for consideration of linguistically formed narratives maintained by women who report CSA and concurrent CI and their families. This theory is relevant to the designated population because of the stigma, secrecy and shame associated with CSA (Nasim & Nadan,2013). Narrative Therapy allows for deconstruction and externalization of illness and CSA narratives associated with survivors. Additionally, Narrative Family Therapy creates space for the survivor to re-author meanings otherwise contextualized by illness and CSA. These re-authored narratives can be supported in the group process as the CSA survivor strives to solidify new narratives that support positive growth and development across multiple domains of health.

Deconstruction. Deconstruction provides an opportunity for the CSA survivor to bring awareness to beliefs created within the context of CSA and CI. Deconstruction supports analysis of experiences, interactions, and messages through a socially constructed epistomology. The survivor’s deconstruction includes aspects of the problem saturated story that relate to disease and disease activity, as well as meaning making experiences created through interactions with the healthcare system, educational system, and the family. The woman is then empowered through the shedding of CSA and CI narratives and the creation of new narratives reflective of their desired experience. White (2007) posited that deconstruction creates space for individuals to have a “stronger voice” that allows the individual an opportunity to define their own experience (p. 39).

Externalization. Externalization is a fundamental component of the narrative therapeutic process. Walter & Peller (1992) postulate that “Michael White has articulated the belief that people are separate from their problems” (p. 1). This separateness is conceptualized through the process of externalization wherein a problem can be objectified and placed it within a socially constructed framework. Treatment of CSA and concurrent CI typically relies on externalization of corresponding narratives by the woman who has suffered the abuse. Once the narratives are bifurcated from the survivor’s identity she is free to create a new identity unhindered by the socially constructed messages of CSA and CI. This new identity can be used to fight against the maladaptive power of abuse and illness through increasing adaptive needs directed behavior, and healthy relational interactions.

An Integration of Theories

MEND is a detailed theory drawing upon the elements above, as well as other conceptual and empirical concepts within the literature. A more detailed summation of the theory can be found in the MEND Manual. This study extends the assumptions of the MEND model to include the treatment of the MEND model as it relates to women with a history of CSA and CI. The model has relied upon each of the theories and modalities to ensure the multifaceted complexities of CSA and CI are considered in treatment application. Additionally, the model has been created with the overarching desire to create wholeness and restoration for participants and their families. MEND contains an integration of these theories to support and honor the women who have acknowledged CSA and CI and their families.

Much like other integrated theories, MEND was created through a synthesis of relevant treatments and modalities. Biopsychosocial theory was created to integrate systems theory into traditional biomedical treatment (Hodgson, Lamson, Mendenhall, & Crane, 2014: Engel, 1980). Bio-Behavioral Family Theory was created to expand nuances of the biopsychosocial theory through the inclusion of biobehavioral reactivity or stress on the family system as it relates to illness (Wood, Klebba, & Bruce, 2000). Structural Family Therapy built upon original premises of modernist marriage and family therapy tenants and Narrative Therapy was generated to incorporate the social constructionist epistomology and post-positivistic theories (Jacobs, Kissil, Scott, & Davey, 2010).

Each of the underpinnings of the MEND model was carefully selected from the current body of literature to address critical nuances of treatment including: self-efficacy, family systems, illness meaning, emotional congruence, and stress responses (Tapanes, 2016). This integration allows MEND to leverage the breadth of theories proven effective in treatment of the target population. Interventions from each of the theories are coalesced into the treatment of MEND patients as therapeutic work unfolds. From this position, the MEND therapist is able to access these interventions at specific phases in the MEND model to support a reduction in stress and an increase in treatment efficacy through enhanced family system functioning.

Conclusion

Studies continue to demonstrate the implications of CSA on women's health however, few interventions are designed to address the symptoms of CSA as they relate to CI (Price, Hilsenroth, Petretric-Jackson, & Bonge, 2001; Paulucci, Genuis, & Violato, 2001; Chen et al., 2010; Wegman & Stetler, 2009). The MEND biopsychosocial, family-based intervention was designed to provide wholeness to families and children suffering from pediatric CI. This study hypothesizes that the MEND intervention is capable of ameliorating the biopsychosocial issues connected to CSA and CI in women survivors. The model is an integrated approach with underpinnings of Ecology Theory, Biopsychosocial Theory, Biobehavioral Family Model, and additional family therapy models. The integration of these theories allows the MEND model to leverage empirically tested theories through the use of sound practices from vetted modalities coupled with unique applications capable of increasing health related quality of life in women survivors of CSA with concurrent physical and mental health diagnoses.

CHAPTER THREE

LITERATURE REVIEW

Childhood sexual abuse (CSA) contributes to increases in stress levels that exacerbate negative biopsychosocial health outcomes. These negative outcomes have been extensively documented in the literature through meta-analyses and individual studies performed over the past thirty years (Hulme, 2004; Price, Hilsenroth, Petretric-Jackson, & Bonge, 2001; Paulucci, Genuis, & Violato, 2001; Wegman & Stetler, 2009). Women are particularly vulnerable to CSA related stress and corresponding negative outcomes (Irish, Kobayashi, & Delahanty, 2010).

This chapter examines current research contained in the extant body of literature related to the study of stress and biopsychosocial outcomes in women who endorse CSA. The chapter consists of a literature review that arranges empirical evidence around concepts of CSA and health. Consideration is given to the effect of concomitant adverse childhood experiences as well the neurobiological consequences of CSA. Lastly, the chapter considers the benefits and limitations of empirically-based treatment options currently available to women who endorse CSA.

An Overview of Childhood Sexual Abuse

The CDC defines the act of CSA as “inducing or coercing a child to engage in sexual acts” that include “fondling, penetration, and exposing a child to other sexual activities” (2017). CSA typically involves threats or force against the child or her family members (Saunders, Kilpatrick, Hanson, Resnick, & Walker, 1999). CSA most often involves a caregiver, relative, or a family acquaintance (Whitaker, Le, Hanson, Baker, McMahon, Ryan, Klein, Rice, 2008). Studies show family member or family acquaintance assaults comprise as many as 88% of incidents whereas stranger assaults comprise 12% of incidents (Finkelhor, Ormrod, Turner, & Hamby, 2005).

While most CSA goes unreported, multiple studies have attempted to capture the prevalence of CSA through retrospective self-report measures (Hanson et al., 1999; Dong et al., 2003; Musliner & Singer, 2014). These studies reveal as many as 20% to 30% of women experience some type of sexual abuse before the age of 18 years old. The majority of assaults occur between the ages 7 to 13 (Pereda et al., 2009; Stoltenborgh, Van Ijzendoorn, Euser, Bakermans-Kranenburg, 2011; Bolen & Scannapieco, 1999; Holmes & Slap, 1998; Finkelhor, 1994).

CSA is often studied from a multiethnic methodology (Ulibarri, Ulloa, & Salazar, 2015). However, when ethnicity is considered, data suggests that Hispanic females experience a significantly higher risk of victimization than African American and Caucasian counterparts (Clear, Vincent, & Harris, 2006). Ethnicity may demonstrate a higher rate of exposure, but it does not appear to predict variations in outcomes over the life course. The consequences of CSA on health-related quality of life (particularly those associated with psychological health) remain constant across ethnic groups (Clear, Vincent, & Harris, 2006).

While studies have found that the outcomes of CSA are not influenced by ethnicity, they appear to be influenced by parental support (Merrill et al., 2001; Tyler, 2002). Secure attachment, healthy family functioning, and access to emotional support, and psychotherapy have been shown to foster resilience and mitigate CSA related consequences (Musliner & Singer, 2014; Noll, 2008). Estimates show that 20% to 40%

of survivors report little to no adverse effects in adulthood (Paras, Murad, Chen, Goranson, Sattler, Colbenson, Elamin, Seime, Prokop, & Zirakzadeh, 2009). This finding is consistent with the work of Bonanno (2005) who posits that resilience is the most common trauma response. Unfortunately, many victims are exposed to socio-relational factors that reduce resilience and exacerbate physio-psychopathology over the life course (Musliner & Singer, 2014: Powers, Ressler & Bradley, 2009; Aspelmeier, Elliott, & Smith, 2007; Felitti, 1998). While positive socio-relational factors engender resilience and neutralize the consequences of CSA, negative factors reduce resilience and increase the risk of pathology. Unfortunately, victim families often experience a heightened level of dysfunction including psychopathology, substance abuse, neglect, physical, and emotional abuse (Wegman & Stetler, 2009). Therefore, victims can be left with feelings of guilt and shame, and reductions in self-esteem (Banyard Williams & Siegel, 2004).

In addition to the family system, abuse severity plays a critical role in survivor resiliency. Abuse severity has a direct correlation on physiological and psychopathological health outcomes (Maniglio, 2010; Dong et al., 2004; Mackenzie et al., 2018). Fondling or molestation is considered a less severe classification of CSA with reduced negative outcomes. Whereas oral assaults and assaults with attempted or completed penetration are considered a more severe classification of CSA with increased negative outcomes (Felitti, 1991). In addition to severity, abuse frequency is a correlate of CSA outcomes as well as the perpetrator’s relationship to the victim (i.e.: incest or non-incest). Therefore, when developing a conceptual framework for the study of CSA, consideration of the breadth of abuse is integral to contextualizing stress levels, outcome severity, and corresponding HRQOL.

In addition to abuse severity, other forms of maltreatment factor into the breadth of abuse history. CSA victims often report other forms of maltreatment that enhance stress and increase the negative outcomes of CSA (Dong et al., 2004). Additional forms of maltreatment include physical, emotional, verbal abuse and neglect (Fergusson & Mullen, 1999; Felitti et al., 1998). The Adverse Childhood Experiences (ACES) studies provide data that captures CSA and other concurrent or intermittent forms of abuse (Felitti, 1991; Dong, Anda, Felitti, Dube, Williamson, Thompson, Loo, & Giles, 2004). Multiple ACES studies have considered the implications of CSA in conjunction with other forms of childhood maltreatment (Dong et al., 2003). These studies consider CSA as more than an independent phenomenon but rather as one variable within a larger systemic context in which the sexual trauma occurred.

Incidents of polyvictimization heighten the proclivity of adverse mental and physical health outcomes (Chapman, Conwell, McCollumn, Franus, Cotescu, & Duberstein, 2004; Anderson, 2018). Meta-analyses and individual studies have linked childhood concurrent physical and sexual abuse to “neurological, musculoskeletal, respiratory, cardiovascular, gastrointestinal, and gynecological disorders” as well as heart disease, stroke, cancer, type 2 diabetes, obesity, and arthritis (McCarthy & McCarthy, 2014, p. 2008; Springer, Sheridan, Kuo, & Carnes, 2007; Sapolsky, 2004; Felitti, 1998). Women who report CSA with additional childhood trauma(s) also report higher levels of somatization including fibromyalgia, gastrointestinal disorders, migraines, chronic pain disorder, or psychogenic non-epileptic seizures (van den Berk-Clark, Weaver, & Schneider, 2017; Paras, Murad, & Chen, 2009).

The primary focus of this study is to examine the ability of MEND, a psychosocial, family-based intervention to improve HRQOL in women who endorse CSA. However, a discussion of additional childhood traumas is relevant. Often CSA does not present as an isolated incident. As such, the author predicted many of the participants in this study would also self-report concurrent forms of maltreatment. The multiple case study approach allows for examination of additional traumas and provides support for the ability of the MEND intervention to ameliorate the symptomology therein.

As noted in Chapter 1, this study assumes that stress is a significant variable in biopsychosocial health outcomes. Based on this assumption, stress is conceptualized as the linkage between sexual abuse in childhood and poor health outcomes. Since the 1930's, researchers have made significant strides in understanding the connection between stress and physical illness (Sapolsky, 2004). Findings have demonstrated physiological pathways linking prolonged stress exposure to catabolic biological processes that increase the propensity for illness and related symptomatology (Sapolsky, 2004). Because stress levels are known to be higher in individuals with a history of maltreatment there is a greater propensity for negative physical and mental health outcomes (Teicher & Samson, 2016). McEwen (2017) ascertains that the result of prolonged stress is "pathophysiology, particularly if is sustained" (p. 551). The development of pathology further increases stress levels which in turn exacerbates the stress/disease cycle. As a result, women who report CSA are vulnerable to the deleterious effects of CSA related stress on physical, mental, and social heath.

Biological Implications of Childhood Sexual Abuse

Heightened stress levels and corresponding negative physical health outcomes are considered a consequence of CSA in women (Springer, Sheridan, Kuo, & Carnes, 2003; Irish, Kobayashi, & Delahanty, 2010). These negative outcomes have been studied at length across multiple disciplines of health and traumatology. Findings suggest the odds of women with a history of CSA developing a physical health condition is 2.0 higher than non-abused counterparts (Afifi, Taillieu, Zamorski, Turner, Cheung & Sareen, 2016). These findings are consistent with other studies that link CSA to pervasive and diverse illness activities (McCarthy-Jones & McCarthy-Jones, 2014). Irish, Kobayashi, & Delahanty (2010) demonstrate the correlation between CSA and illness activity across domains of health that include: general health, gastrointestinal health, gynecological health, chronic pain, and cardiopulmonary health.

Many of the negative outcomes of CSA on women's health are related to risky health behaviors reported by CSA survivors that include alcohol and nicotine dependence and reduced physical activity. Nelson, Heath, Madden, Cooper, Dinwiddie, Bucholz, Glowinski, McLaughlin, and Martin (2002) found 42.2% of women who endorsed CSA struggled with nicotine dependence as compared to 24.3% of non-abused counterparts (n=2,318). Additionally, 28.9% of women who reported CSA struggled with alcohol dependence as compared to 11.8% of non-abused counterparts. Furthermore, CSA survivors often report difficulty engaging in physical activity. The result is a heightened risk of cardiovascular disease and obesity (McCarthy-Jones & McCarthy-Jones, 2014).

Risky health related behaviors have cardiovascular implications for women who endorse CSA. This group is particularly at risk for hypertension and cardiovascular disease (Goodwin & Stein, 2004). Estimates reveal women who report sexual trauma in childhood (e.g.: molestation and rape) are five times more likely to experience heart disease than non-abused counterparts (Rich-Edwards et al., 2012). Abuse exposure contributes to the prevalence of heart disease in women with more severe forms of abuse including rape and incest demonstrating stronger correlations to cardiovascular issues (McCarthy-Jones & McCarthy-Jones, 2014).

Obesity is an additional chronic health condition that inordinately impacts women who endorse CSA. In a study of 84 females with a history of CSA, Noll et al. (2007) found 42% of study participants struggled with obesity. Similarly, Felitti (1991) found that 60% of CSA survivors were greater than 50 lbs overweight compared to 28% of non-abused counterparts. A noteworthy finding from Felitti's work is the connection between abuse exposure and obesity. In a study of 33 study participants struggling with morbid obesity (> 100 lbs over normal range) 23 participants reported incestuous activity, and 3 reported CSA with penetration (rape). Min, Minnes, Kim, Singer (2013) found an increased risk of obesity in young women who experienced severe forms of CSA. Heart disease and obesity comprise only a portion of health-related issues in women who endorse CSA.

McCarthy-Jones and McCarthy-Jones (2014) found severe CSA resulted in an 84% increase in odds for migraines, a 165% increase in odds for bladder problems, and a

106% increase in odds for bone, back, muscle, and joint pain. Less severe CSA was directly associated with allergies, arthritis, bronchitis, and stomach ulcers. Thus, the correlations between CSA and physical health problems are broad and comprehensive. This is particularly evident when psychosomatic issues are considered with medically explained physical health issues.

In 1991, Felitti published a study that considered the health-related implications of severe CSA including rape and incest. His work highlighted the implications of severe CSA on physical health outcomes. One relevant study finding was the notable increase in somatic sequelae reported by the sample population. Somatic issues can be defined as "pain and disability in the absence of physical or laboratory abnormalities" (Springer et al., 2007, p. 518). Felitti estimated as many as half of all CSA patients complained of psychosomatic issues. Most of which were headaches and gastrointestinal issues. The sample provided by Felitti was representative of severe CSA victims however, somatic issues can be noted throughout the CSA literature (Irish, Kobayashi, & Delahanty, 2010; Hulme, 2000; Finestone et al., 2000). CSA correlates include: fibromyalgia, irritable bowel syndrome, chronic fatigue syndrome, psychogenic seizures, and chronic pain syndrome (Finestone et al., 2000).

Somatization is particularly relevant to the study of CSA and corresponding health related quality of life outcomes for women. Somatic illness activity results in additional doctor's office visits, medical protocols, pain, and maintenance (Irish, Kobayashi, & Delahanty, 2010; Hulme, 2000; Finestone et al., 2000). The additional use of services and the ongoing complaints about issues that cannot be medically explained has been shown to breakdown the patient and healthcare provider relationship resulting in frustration between the patient and healthcare provider (Nelson, Baldwin, & Taylor, 2011). Somatic illness activity enhances illness beliefs and subsequently exacerbates psychological issues through interactions with providers that result in feelings of shame and stigmatization (Nelson, Baldwin, & Taylor, 2011).

Increased Utilization of Medical Services

The combination of physical and somatic sequelae leads to increases in healthcare utilization for women who endorse CSA. As a group, women who endorse CSA experience multiple concomitant illnesses including obesity, depression, and somatization (Felitti, 1991). The level of medical care necessary to treat the rate of illness results in added costs and chaos to the healthcare system and increases in stress and disease activity for CSA survivors. CSA can lead to exacerbated healthcare expenditures incurred through hospital stays, emergency room visits, doctor's appointments, surgeries, procedures and pharmaceutical services (Irish, Kobayashi, & Delahanty, 2010; Hulme, 2000; Finestone et al., 2000). Felitti (1991) found that women who endorse CSA are more than four times more likely to become high users of healthcare than normal users. The connection between medical care usage and CSA is not typically not detected in the medical setting. Given the prevalence rates of CSA, and the magnitude of associated health care expenditures, one can posit that CSA has a detrimental effect on individual health and the broader health care system. As such, a shared understanding of the implications of CSA can benefit both the survivor and her medical care practitioner.

Neurobiological and Psychological Implications of Childhood Sexual Abuse

One important finding in the study of CSA is the way abuse affects brain development and function during childhood and over the life span. Abuse in childhood creates structural changes in the brain that result in permanent consequences (Anda, Felitti, Bremner, Walker, Whitfield, Perry, & Dube, 2006; Teicher et al., 2002). These consequences result in a host of issues that increase stress and reduce quality of life for women who acknowledge CSA (Anderson et al., 2008).

Childhood brain development is an intricate and complex process influenced by environmental and developmental experiences (Anda et al., 2006; Perry and Pollard, 1998). Free from significant stressors, the brain uses these experiences in an elaborate cascade of processes that sculpt and form the brain. However, when abuse is presented during critical times of brain development the already sensitive process is altered by stress exposure, which results in a series of “molecular and neurobiological effects that irreversibly alter brain development” (Teicher, 2002, p. 70). The anatomical effects of abuse on the development of the brain aid in explaining various pathologies associated with CSA.

To this end, Teicher et al. (2003) demonstrated how childhood trauma reduces the corpus callosum and alters the limbic system thus affecting the hippocampus and the amygdala. The hippocampus is responsible for the formation and recollection of both verbal and emotional memories. Abuse including CSA has been shown to decrease the volume of the hippocampus thus resulting in a reduction in autobiographical memory and a subsequent increase in depression, and PTSD symptoms (Coates, 2010). Furthermore, the amygdala is responsible for developing emotional content of memories. CSA has been linked to reductions in the amygdala as well as amygdaloid over activation. The result is an increased proclivity for PTSD (Teicher et al., 2003).

The impact of CSA on brain development provides an additional hypothesis for psycho-pathologies that extend beyond PTSD. Traumatic experiences including CSA are thought to trigger limbic electrical irritability which creates long-term aggressiveness as well as an exacerbated, anxious states of being that lead to increased suicidality and destructive patterns (Teicher, 2002; Teicher, 2003). Changes to the limbic system aid in explaining the maladaptive symptoms and behaviors often demonstrated by women who have survived sexual abuse in childhood. Often these maladaptive symptoms are internalized through depression, anxiety, and suicidality. Externalized maladaptive behaviors present as “aggression, impulsivity, delinquency, hyperactivity, and substance abuse” (Teicher, 2002).

Psycho-Pathology and Childhood Sexual Abuse in Women

CSA has been linked to mental health diagnoses including major depressive disorder, generalized anxiety disorder, and post-traumatic stress disorder (Springer, Sheridan, Kuo, & Carnes, 2007). Studies have shown women who report CSA experience a greater propensity for suicide and suicidal ideation (Dube et al., 2005). Additionally, women who report CSA have a stronger propensity for eating disorders, borderline personality disorder, substance abuse disorder, dissociative disorder, self-mutilation, and disorders of extreme stress when compared to controls (van der Kolk et al., 2005; Nelson et al., 2002, Teicher, 2002; Spataro & Mullen, 2004).

One of the major consequences of CSA in women survivors is the prevalence of major depressive disorder (MDD). Research demonstrates the proclivity of MDD in women survivors when compared to nonabused counterparts (Maniglio, 2010). Musliner and Singer (2014) posit that 30-40% of individuals who report CSA experience MDD versus 10-20% of non-abused counterparts. Additional studies have concluded that women who endorse CSA are 2 -3 times more likely to develop MDD symptoms that reduce functioning and inhibit quality of life (Molnar, Buka & Kessler, 2001; Jardim, Novelo, Spanemberg, von Gunten, Engroff, Nogueira, & Neto, 2018).

The depressive symptoms of CSA manifest in ways that increase the risk of suicidal ideation (Noll, Shenk, & Putnam, 2008). Dube et al., (2005) found women who endorse CSA experienced a twofold risk of suicide attempts ($p<0.05$) when compared to non-abused counterparts. In a twin study performed by Nelson et al. (2002), researchers found 13.7% of women reported at least one suicide attempt compared to 2.6% of non-abused respondents ($n=2318$). The same study revealed that CSA survivors who reported intercourse were at the greatest risk of suicide with an odds ratio of 14.64 (95% CI, 9.18-23.34) when controlled for gender. These findings demonstrate the disproportionate risk of suicide for women who experience CSA and the enhancement of symptomology in the face of abuse severity.

In addition to MDD and suicidality, PTSD has is commonly associated with women who endorse CSA (Steine et al., 2017). PTSD is the most common diagnosis given to children who report CSA however, a PTSD diagnosis is not limited to the time of assault (Trask, Walsh, & DeLillio, 2011; Weinstein, Staffelbach, & Biaggio, 2000). Estimates reveal as many as 37% to 53% of children who report CSA will experience PTSD or PTSD like symptoms at some point over the life course (Kendall-Tackett, et al., 1993; Resick, Suvak, & Wells, 2014). PTSD diagnosis can be provided in childhood or in adulthood as symptoms arise and illness activity becomes heightened. A

PTSD diagnosis results from the traumatic nature of the violation and the stress experienced by both the body and brain.

A review of the literature reveals a strong correlation between CSA and mental health issues. Common themes include major depressive disorder, PTSD, anxiety, substance use, and suicidality. Mental health themes highlight the painful and disproportionate implications of CSA in women. Mental health is particularly vulnerable to the influences of biological and socio-relational health. Thus, mental health must be considered as a dependent variable mediated by additional variables.

Social Implications of Childhood Sexual Abuse

Socio-relational issues are particularly relevant in the study of women who endorse CSA. Women who have suffered sexual abuse in childhood long for connectedness and attachment (MacIntosh & Johnson, 2008). However, healthy relationships are often elusive due to family of origin issues, insecure attachment, low self-esteem, and the consequences of psychopathologies. CSA has been shown to impede healthy social functioning and reduce the opportunity for secure relationships in partnerships and parenting roles (Nelson & Wampler, 2000; MacIntosh & Johnson, 2008).

Given the deleterious implications of CSA on socio-relational outcomes it is not surprising that women who endorse CSA have a higher prevalence of divorce and remarriage, reduced feelings of partner support, and a general reduction in marital stability (Felitti, 1991). In addition, women who endorse CSA experience issues in parenting that include the setting of appropriate boundaries, proper use of discipline, and poor overall parental functioning (Cohen, 1995).

Family of Origin

To fully conceptualize the implications of CSA on women survivors it is imperative to consider not only the individual but her family of origin. Women who endorse CSA often come from dysfunctional family systems (DiLillio & Damashek, 2003). These dysfunctional family systems expose the CSA survivor to a host of risk factors including: paternal and maternal alcoholism, illicit drug use, low socio-economic status, criminality, and low parental education levels (Nelson et al., 2002; Fergusson, Boden & Horwood, 2008). For the CSA survivor, correlating risk factors can result in the lack of a parental role model and the lack of a secure parental base. These nuances enhance the proclivity of long-term relational distress and dissatisfaction ranging from intimate partners to the parent child relationship.

In addition to the risk factors noted above, CSA has been linked to issues of attachment between the caregiver and the child (Chard, 2005). To more fully understand this issue, theorists have examined the role of CSA and the formation of attachment (DiLillio & Damashek, 2003; MacIntosh & Johnson, 2008). Their results have shown that CSA often results in insecure and disorganized attachments with caregivers including that of anxious, fearful, and avoidant attachment styles (MacIntosh & Johnson, 2008; Oshri, Sutton, Clay-Warner & Miller, 2015). This is an unfortunate finding because of long-term consequences of insecure attachment (Oshri, Sutton, Clay-Warner & Miller, 2015). Individuals with insecure attachment often experience a general anxiety toward healthy relationships that include a fear of closeness and attunement. Anxiety and fear are carried from childhood into adult relationships subsequently diminishing the possibility of a secure attachment with intimate partners and children (DiLillio & Damashek, 2003).

As previously noted, CSA engenders mental health issues in women. These issues have been linked to reductions in relational functioning and satisfaction. In the best of scenarios, partnerships and parenting can be emotionally challenging (DiLillo & Damashek, 2003). For the CSA survivor, partnerships and parenting challenges are enhanced by the symptoms of pathology that foster low self-esteem, a general lack of trust in others, feelings of powerlessness, shame, emptiness, self-loathing, fear, and confusion (Vaillancourt-Morel, Godbout, Labadie, Runtz, Lussier, & Sabourin, 2015). As a result, women who endorse CSA often isolate and or disassociate to cope with the stress of trauma. These tendencies exacerbate poor social outcomes through diminished emotional attunement and relational distance (Banyard, Williams & Siegel, 2004; Maniglio, 2010). In the short-term, relational distance insulates the CSA survivor from the perceived threats of closeness. In the long-term, relational distance exacerbates the pain of trauma and fuels negative thoughts, feelings, and behaviors (MacIntosh & Johnson, 2008).

Sexual Dysfunction

Sexual behaviors in women who endorse CSA have been examined at length. One reason for this examination is that sexual sequelae may be a distinguishing factor that separates CSA from other types of childhood maltreatment (Vaillancourt-Morel et al., 2015: Blain, Muench, Morgenstern, & Parsons, 2012). As a group, women who endorse CSA experience strong correlations to maladaptive sexual behaviors that range from hyper-sexuality to sexual avoidance. Behaviors that are considered “risky” include: a higher number of sexual partners, and single episode encounters, an increased level of prostitution including sex in exchange for cocaine or heroin, and a reduction in use of birth control including inconsistent use of condoms (Fergusson, Boden & Horwood, 2008; Irish, Kobayashi & Delahanty, 2010; Banducci, Hoffman, Lejuez & Koenen, 2014). Sexual avoidance includes: reduced levels of intercourse, low sexual self-esteem, heightened concerns around sex, negative sexual attitudes, and a reduced level of satisfaction when sober (Vaillancourt-Morel et al., 2015: DiLillo et al., 2007, Rellini & Meston, 2007, Wilson & Widom, 2008; Banducci, Hoffman, Lejuez & Koenen, 2014).

Risky sexual behaviors including sexual compulsivity result in an array of consequences for women who endorse CSA. Consequences include biopsychosocial risk factors that compromise health. Biologically, sexual compulsion has been linked to teenage pregnancy and premature motherhood (Loeb, Rivkin, Williams, Wyatt, Carmona & Chin 2002; Zierler et al., 1991). Socio-relationally, risky sexual behaviors have been linked to reductions in relational satisfaction and dyadic adjustment (Vaillancourt-Morel et al., 2015). One explanation for sexually compulsive behavior could be the lack of impulse control noted in CSA survivors. Another explanation could be the inherent need for peer group satisfaction in individuals who maintain an anxious/avoidant attachment style (Oshri, Sutton, Clay-Warner & Miller, 2015).

The inverse of sexual compulsion is that of sexual dissatisfaction and avoidance. Aaron (2012) found that women who report a history of CSA often struggle in the face of sexual activity because of painful flashbacks that cause the survivor to disassociate during intimacy or avoid intimacy. These types of sexual dysfunction may be due to unresolved memories that are re-triggered during intimacy and subsequently lead to re-traumatization. Vaillancourt-Morel et al. (2015) posit that intimacy activates "unresolved trauma-related affects" that include feelings of "fear, guilt, panic, pain, helplessness, anger, and shame" (p. 55). These feelings may subconsciously solicit a coping strategy necessary to endure sexual abuse performed under threat or duress. The result is a reduction in sexual pleasure and a fearful avoidance of intimacy (Aaron, 2012).

Each of the pathways of sexual dysfunction results in relational issues for the CSA survivor and her partner. However, these pathways are not mutually exclusive (Vaillancourt-Morel et al., 2015). Women may vacillate between these dysfunctional behaviors at varying stages of their life and in the life of the relationship. In either case, the implications of CSA on sexual functioning has been linked to a reduction in couple adjustment and relational dissatisfaction (Vaillancourt-Morel et al., 2015).

Intimate Partner Relationships

Women who endorse CSA report a disproportionate amount of relational dysfunction when compared to non-abused counterparts (Davis & Petretic-Jackson, 2000; DiLillo, 2001). Women with more severe trauma including rape or incest are the most vulnerable to relational dysfunction as negative outcomes correspond with trauma exposure (Nelson et al., 2002; Dube et al., 2015). CSA correlates directly and indirectly to increased levels of intimate partner violence, partner emotional unavailability, partner alcoholism, sexual dysfunction, and poor overall relational outcomes (Dube et al., 2015; Felitti, 1991). The result is an increase in the amount of relationships, potential divorces and remarriage, reduced feelings of partner support, and a general reduction in marital stability (Felitti, 1991; Nelson et al., 2002). For many of the reasons previously mentioned (e.g.: family of origin, attachment, and pathology), healthy intimate partner relationships often allude women who endorse CSA. Reid, Wampler, and Taylor (1996) found that CSA often causes women to experience feelings of isolation, anger, fear, and despair around intimate relationships. The result is an overall sense of relational dissatisfaction and an increase in interpersonal distress (Nelson & Wampler, 2000).

The issue of poor socio-relational health in women with a history of CSA can be attributed to breakdowns in core aspects of relational development. Chard (2005) posits that CSA impacts not only attachment and sexual functioning but also communication and social adjustment. Many of these variables are consciously and subconsciously designed to create relational distance subsequently keeping the survivor safe from the perceived threats of interpersonal closeness (Teicher, 2002). Maintaining relational distance may be perceived as a necessary coping mechanism for women however, it comes at a cost to the survivor's overall well-being.

Parenting with a History of CSA

The implications of CSA on women survivors extend beyond partner relationships and into the realm of parenting. Mothers who endorse CSA experience the disadvantage of trauma beginning in pregnancy. Survivor mothers report higher levels of teen pregnancy and/or single motherhood (Maniglio, 2010; DiLillo & Damashek, 2003). Severe forms of CSA including rape or incest increase these odds (Mullen, Martin, Anderson, Romans, & Herbison, 1994). Data around risky sexual behaviors and inconsistent use of contraceptives is unequivocal (Tyler, 2002: Boyer & Fine, 1992). These behaviors are associated with the risk of unplanned pregnancy. What is equivocal is data that suggests girls with CSA exposure enter puberty sooner than non-abused counterparts (DiLillo & Damashek, 2003: Herman-Giddens, Sandler, & Friedman, 1988). The combination of these biological and psycho-social factors may explain data that connects early pregnancy to survivor mothers.

Predominant issues facing mothers who endorse CSA include boundary setting, poor attachment, and possible revictimization of their own children. In addition to diffused boundaries, mothers with a history of CSA often struggle with emotional attunement and intimacy in parenting (DiLillo & Damashek, 2003). The result is often hypothesized as an inability to foster a secure attachment with children through emotional attunement and consistency. The lack of secure attachment is not conscious but rather is due to an inability to withstand closeness and also a lack of modeling in the mother's own childhood (DiLillo & Damashek, 2003). Because mothers who endorse CSA often come from fragile family systems where chaos, conflict, friction, and violence are prevalent, it is challenging for the mother to present for her children in a healthy and attuned way (Wegman & Stetler, 2009).

There is literature to support the idea that CSA is an intergenerational pattern however these studies have been met with mixed results (Rumstein-Mc Kean & Hunsley, 2001). Hypotheses about the possibility of multigenerational CSA are derived from varying schools of thought. The first hypothesis is that mothers with a history of CSA struggle to maintain boundaries that will insulate their children from the possibility of CSA (DiLillo & Damashek, 2003). This hypothesis is supported by risk factors that destabilize the family system (Wegman & Stetler, 2009). These behaviors include: a child's exposure to multiple intimate partners, divorce, intimate partner violence, alcohol, illicit drug use, and symptoms of pathology. The second hypothesis espouses that mothers expose their children to perpetrators in the family, perhaps the same perpetrator responsible for their own victimization. Because family members are most often responsible for CSA, this theory is often thought to be supported in the literature.

Treatment Options for Women with Sexual Abuse in Childhood

Within the traumatology literature there are a limited number of evidence-based treatment interventions designed to ameliorate the consequences of CSA. Chard (2005) ascertained that while there are several therapy options available to rape survivors, CSA interventions have been given less attention. This point was reiterated by MacIntosh and Johnson (2008) who also underscore the limited amount of CSA specific treatment options. Interventions presented in the extant literature are most often behaviorally based models that provide treatment from an individualistic paradigm. However, psychoanalytic support groups and systemic support groups also provide treatment to CSA survivors. Additionally, Emotional Focused Therapy for couples provides a couple-based intervention for the treatment of systemic underpinnings of CSA (MacIntosh & Johnson, 2008). The purpose of the following section is to highlight the most commonly used treatment options available to women who endorse CSA and negative associated symptomology.

Cognitive Processing Therapy for Sexual Abuse (CPT-SA) is an adapted version of the cognitive processing therapy model originally used in the treatment of rape survivors that integrates “information processing, developmental, and self-trauma theories” (Resnick & Schnicke, 1993; Price & Hilsenroth, Petretic-Jackson, & Bonge, 2001). The CPT-SA intervention was designed to fill a gap in the literature regarding empirically-based treatment options for CSA survivors. Chard (2005) writes that the

CPT-SA intervention is performed in a group setting that also allows for weekly individual sessions used to solidify progress made in group. This process harnesses the benefits of both group and individual work to ensure the intervention meets targeted goals. In an effectiveness study, CPT-SA was compared to minimal attention therapy through the random assignment of 71 women with a self-report history of CSA. The results demonstrated that CPT-SA was more effective in mitigating the symptoms of trauma, in comparison to a minimal attention therapy intervention. Furthermore, CPT-SA had stronger outcomes in depression, and PTSD symptom reduction. Outcomes were maintained at three-month and one year follow ups.

Cognitive Behavioral Therapy (CBT) for CSA women survivors has also been shown to provide relief for various symptoms of CSA (Foa et al., 1999). In this case, a CBT intervention conducted over approximately 14 sessions appeared to reduce PTSD symptoms. Specifically, this intervention used CBT concepts of prolonged imaginal exposure and cognitive restructuring were integrated into the intervention (McDonagh, Friedman, McHugo, Ford, Sengupta, Mueser, Demment, Fournier, Descamps, Schnurr & Descamps, 2005). In a comparison to the present-centered therapy (PCT), and a control group of wait list participants (n=74), McDonagh et al. (2005) reduced PTSD symptoms in 47.1% of CBT participants compared to 35.0% in PCT participants. A six month follow up revealed 76.5% of the participants in CBT did not meet PTSD criteria as opposed to 42.1% in PCT. Unfortunately, the study was somewhat inconclusive due to the dropout rates of participants in the CBT group. The drop-out rate was 41% for CBT participants (12 out of 29) compared to 23% for PCT.

Dialectical Behavioral Therapy for Post-Traumatic Stress Disorder (DBT-PTSD), a hybrid model of DBT and Cognitive Behavioral Therapy (CBT), has also been used (Steil et al., 2011: Linehan, 1993; Ehlers & Clark, 2008). This intervention was designed to mediate the PTSD symptoms of CSA. The approach is individualistic and takes place in a residential setting over an average of 82 treatment days. It offers a combination of individual and group therapy, facilitated by trained psychologists. In a study published in the Journal of Traumatic Stress, Steil et al. (2011) sampled 29 White women with a history of CSA related PTSD, as well least one comorbid psychological diagnosis. The study captured data at baseline, end of treatment and 6 weeks after treatment. The DBT approach resulted in a Cohen's D = 1.22 effect size.

Psychoanalytic and systemic group therapy has demonstrated positive outcomes for women with a history of CSA. Lau & Kristensen (2007) found in a study of women survivors of intrafamilial CSA, participants in psychoanalytic (n = 40) and systemic (n = 46) support groups demonstrated statistically significant improvements. Psychoanalytic groups were designed to minimize the role of the therapist and foster a culture reliant on peer process and reduced structure. Systemic groups integrated social constructionist theory while employing solution focused and narrative therapy tenants. The systemic groups were highly structured and included "rounds, initial goal-setting, and a focus on individual process" (p. 97).

This study relied on the following measures: DSM-IV and ICD-10, Child Sexual Abuse questionnaire, Flashback Registration, Global Assessment of Functioning, Symptom Checklist-90-R, Registration Chart Questionnaire, Global Quality of Life, and Patients expectations to therapy and Patient-rated change to test outcome parameters.

While participants in the analytic group demonstrated improvements across almost all measures, the results were overshadowed by participants in the systemic group who outpaced the analytic group across most outcome measures (and in some cases by double). Lau & Kristensen hypothesized the difference could have been due to the overall structure of the systemic groups. Of noteworthiness, is a finding the suggested more than one third of participants continued to suffer from “severe psychiatric symptoms following therapy” (p. 102). This finding was normalized through prior studies that also demonstrated the continued poor mental health and functional impairment of CSA survivors (Kristensen, 2007: Peleikis, Mykletun, & Dahl, 2005).

Emotionally Focused Therapy for couples and sexual abuse survivors has also demonstrated positive outcomes (Johnson, 1996). In a study performed by MacIntosh and Johnson (2008) 10 heterosexual couples were provided with 19 treatment sessions (conducted by an EFT trained clinician). EFT showed a mean increase in relational satisfaction in 5 of the sampled couples. Among the remaining 5 couples, three reported a reduction in relational satisfaction and subsequently dissolved the relationship after treatment and two of the original sample demonstrated emotionally abusive behaviors in therapy. These behaviors did not diminish over the 19 sessions. In 2013, Dalton, Greenmen, Classen, and Johnson published the results of a randomized controlled trial of EFT for women with a history of CSA (n=24 couples). Their findings demonstrated that couples who participated in 24 sessions of EFT experienced statistically significant improvements in relational satisfaction when compared to counterparts.

Limitations of Existing Interventions

This author recognizes the psychological and relational benefits of both behavioral and couple-based interventions as well as support groups in the treatment of women effected by CSA. These benefits are highlighted in the aforementioned studies and throughout the literature. Their contributions provide promising results for improved functioning across specific domains of health. However, the research emphasis of these programs has not yet been expanded to include the interdependent, biopsychosocial consequences of CSA on women's health. This finding is particularly important when considering the role of stress in the management of biopsychosocial illness activity associated with CSA.

This study is intended to address a current gap in the literature regarding the possibility of a systemic intervention to enhance and add to the already recognized benefits of treatment for women who endorse CSA. Additional benefits of a systemic intervention would specifically include improved biological health in conjunction with psychological and social health outcomes. Within the field of mental health, studies have shown that inclusion of the family system results in highly sustainable treatment outcomes with increased cost effectiveness (Distelberg, et al., 2016: Eccleston, Palermo, Fisher, & Law, 2012; Ellis et al., 2012; Crane & Christenson, 2014). To that end, this study seeks to incorporate the family system into treatment to determine if such an inclusion would result in an amelioration of the biological, psychological, and socio-relational effects of CSA. Currently, we posit that exclusion of a systemic lens could result in an increase in health-related quality of life through an increase in the potential for long-term change.

Conclusion

This chapter examined current literature related to the biopsychosocial outcomes for women who endorse CSA. The literature review considers the work of multiple disciplines and fields of study. Literary contributions are arranged around concepts of biopsychosocial health outcomes. Consideration has been given to the neurobiological consequences of CSA as well as the effects of dose response and prolonged stress exposure. In addition to an examination of the consequences of CSA on biopsychosocial health and functioning, the review has uncovered the gaps in the literature related to the need for a biopsychosocial/family-based intervention that considers physical health as well as other domains of health. The overall objective of this work is to synthesize current and historical literature around CSA as it relates to women's biopsychosocial health while highlighting treatment options designed to neutralize these consequences.

CHAPTER FOUR

METHODS

The proposed study examined the ability of the MEND intervention to improve health related quality of life in women with at least one chronic illness who may or may not report a history of CSA. To examine the outcomes, this author considered women who met study criteria and who completed the MEND adult intensive outpatient program. Outcomes related to women who endorse CSA were assessed through a multiple case study approach. Outcomes related to women with or without a history of CSA were analyzed through a multiple linear regression approach. This study was designed in a publishable paper format wherein Aim #1 was representative of Paper #1 and Aim #2 was representative of Paper #2.

Original Hypothesis/Research Questions

Specific Aim 1: The MEND biopsychosocial, family-based intervention will demonstrate an increase in HRQOL in women with CSA who report at least one chronic illness and comorbid mental health and socio-relational issues.

Specific Aim 2: A quantitative evaluation of CSA experiences in MEND.

A multiple linear regression analysis will be performed to examine the ability of the MEND intervention to improve WHOQOL-BREF scores in female participants with/without CSA who report at least one chronic illness and a comorbid mental issue. The multiple linear regression analysis will utilize a null hypothesis that posits the MEND model will create an increase HRQOL as measured by the WHOQOL-BREF across each sample equally. Thereby showing that non-CSA individuals do not receive a greater benefit than CSA patients.

Hypothesis: Those with/without a history of CSA will show similar improvements from pre to post measured by the WHOQOL-BREF.

Method

The study evaluated the ability of the MEND intervention to improve HRQOL in women with a history of CSA, at least one chronic illness and comorbid mental health and socio-relational issues. The case study design allowed an opportunity to evaluate, at a deeper level, the relationship between CSA illness severity and HRQOL. This aim considered the individual experiences of patients with a chronic illness and a history of CSA to determine whether the MEND program, in its original format, could be useful for this population, or whether modification to the MEND model was needed to fully support these women.

In addition to the case analysis, this study employed a multiple linear regression analysis to examine changes in HRQOL quantitatively. This process evaluated CSA and non-CSA patients to determine whether CSA patients had a similar, or diminished, HRQOL outcome in comparison to non-CSA patients when controlling for number of treatment days, age, and ethnicity.

Participants

This study will utilized data collected from the medical records of female patients in the MEND adult intensive outpatient program. Participants for Specific Aim #1 met the following criteria for study inclusion:

1. Identify as female.
2. Over the age of 18 years old.
3. Ability to read, write, and speak in English.

4. Self-report a history of CSA (2-17 years old) as documented during the psychosocial assessment process performed at intake and through a review of treatment notes.
5. Self-report at least one chronic illness.
6. Self-report at least one comorbid mental health issue.

Participants for Aim #2 met the following criteria for study inclusion:

1. Identify as female.
2. Over the age of 18 years old.
3. Ability to read, write, and speak in English.
4. Self-report at least one chronic illness.
5. Self-report at least one comorbid mental health issue.
6. Completion of the MEND intervention.
7. Participant association with CSA will be determined through a review of the psychosocial assessment process performed at intake and through a review of treatment notes.

MEND Treatment

Mastering Each New Direction (MEND: Tapanes, Distelberg, Williams-Reade, & Montgomery, 2015) is an intervention designed for the treatment of chronic illness and comorbid mental health issues. MEND has demonstrated results in the treatment of pediatric chronic illness although research is needed to expand these findings across an adult population (Distelberg et al., 2016; Distelberg et al., 2014). This dissertation employs a case study approach with quantitative and qualitative data to demonstrate the ability of MEND to improve health related health related quality of life in women presenting with chronic illnesses who report a history of childhood sexual abuse (CSA).

Synopsis

All study participants completed the MEND intensive outpatient program and therefore were subject to treatment protocols including treatment assessment, intake procedures, and administration of timepoint one and two of the WHO-QOL.

Participant data was comprised of intake assessments, psychosocial assessments, therapist notes, physiatrist notes, and treatment updates. This data was reviewed and summarized for relevant findings that existed within and between the individual cases (Yin, 2003). The study focused on the participant's experience in the MEND intervention as they move through the phasic process addressing issues of CSA, stress, and physical and mental health. Progress was tracked through therapeutic milestones and setbacks, medication adjustments, and the fulfillment of treatment goals. As a part of this study, a retrospective IRB approval process was conducted to ensure ethical standards for the use of human participants were maintained.

MEND Program Assessment Process

Each participant received a referral from a primary care physician, member of their healthcare team, or a word of mouth referral. Upon referral, each participant called the MEND telephone line to set up an appointment for assessment. The assessment was facilitated by a member of the MEND clinical team. During assessment, the participant met with the MEND nurse and a MEND therapist to determine if they met criteria for the MEND adult intensive outpatient program. To facilitate the assessment, the MEND nurse administered a host of questions designed to evaluate the participant's current and historical physical and mental health status. During the assessment, the MEND nurse obtained information about the participant's social supports, trauma history, and possible substance use. The MEND nurse also obtained a list of all medications currently prescribed to the participant. Once the assessment was complete and criteria for admission was established, the participant was provided a date for admission into the MEND adult intensive outpatient program.

Intake Procedures

On the first day of treatment, each participant met with their primary MEND therapist to complete intake documents. These documents were provided by the Loma Linda University Behavioral Health Institute and required for each new participant. Once intake documents were signed by the participant and the therapist, copies were given to the participant and originals were maintained in the participant's patient record. In addition to intake documents, the participant completed the WHOQOL-BREF. Upon completion, the WHOQOL-BREF data was entered into a secure dataset by a member of the MEND staff.

At the beginning of treatment, participants also met with their primary MEND therapist for a psychosocial assessment. The MEND therapist engaged in the psychosocial assessment to obtain current and historical information and to begin building a therapeutic alliance. The psychosocial assessment contained open ended questions designed to facilitate conversation around issues of employment and education, intimate partner relationships, sexuality, family of origin, trauma, substance abuse, social supports, spirituality, and goals for treatment. Included in the psychosocial assessment were questions designed to parse out past and present stressors as well as maladaptive behaviors. The psychosocial assessment information was entered into the participant’s electronic chart record maintained by the participant’s primary therapist.

After the MEND therapist completed their portion of the intake process, each participant met with the MEND psychiatrist and nurse for a biopsychosocial assessment. Data from this assessment was entered into the participant’s electronic chart record and updated weekly by the psychiatrist over the course of treatment. The original assessment was designed to articulate current and historical physical and mental health issues as well as mood, possible suicidal ideation, stressors, and social supports. In addition, the MEND psychiatrist also obtained diagnostic information and a list of current medications prescribed to treat the varying diagnoses. The MEND nurse obtained biometric information from the participant including blood pressure and temperature. The participant’s initial biometric information (vital signs) were used as a part of the intake process and updated weekly by the MEND nurse.

Peer Group Introduction

In addition to the intake assessments and screenings noted above, participants were introduced to the existing MEND peer group. This introduction allowed participants to become acquainted with their peers while establishing a familiarity with the MEND daily treatment process. In addition to the group introduction, participants were positioned with an established MEND patient who guided them through their early days in the MEND intervention. Because MEND utilizes a rolling intake, established MEND patients engaged in this peer process as a way of bringing support to the new participant.

After the first day of treatment, participants continued to be exposed to the MEND intervention. Treatment was carried out in three-hour blocks, three days per week. Participants began treatment in phase one of the MEND intervention and were expected to move through phases two, three, and four over an estimated eight to ten weeks. During the process, qualitative data for this study was captured through daily and weekly participant chart records kept and maintained by the MEND team. Participant chart recording began at the time of program assessment and continued until discharge through the assessment and intake procedures listed above as well as through daily treatment notes and weekly treatment updates performed by the MEND therapist and the MEND psychiatrist and MEND nurse.

Daily progress notes were entered into the participant's medical record at the end of each treatment day by the primary MEND therapist. These daily progress notes captured participant mood, affect, participation, and MEND phasic progress. In addition, daily progress notes contained information about trauma work, relational issues, physical and mental health symptoms, and corresponding MEND interventions.

Weekly treatment updates were entered by the MEND therapist and the MEND psychiatrist. Weekly therapist treatment updates summarized the treatment week and provide an overview of patient progress including patient insights, areas of growth and development, familial involvement, and illness activity. Weekly treatment updates also provided a mapping of potential participant related interventions designed to aid in the overall achievement of participant and MEND related treatment goals. MEND psychiatric updates were provided by the MEND psychiatrist. These updates articulated medication adjustments including the introduction of new medications and the titration of existing medications.

Discharge

Once it has been determined by the MEND team that treatment goals previously established by the participant and the MEND team were sufficiently met, the primary MEND therapist began discharge planning. At this time, the participant was connected to an outpatient therapist and provided information about the MEND adult support group. On the day of discharge, the participant was provided a final WHOQOL-BREF survey. This information was recorded by the MEND staff and therapist. The MEND therapist completed a discharge note and closed out the participant's medical chart.

Measures

WHOQOL-BREF

Specific Aim 1 and Specific Aim 2 included data retrieved from the WHOQOL-BREF. In accordance with intake and discharge procedures for the MEND adult intensive outpatient program the brief version of the World Health Organization Quality of Life (WHOQOL-BREF) measure was administered on the first and last day of treatment. The WHOQOL-BREF is an abbreviated 26 item assessment developed as a shortened version of the WHOQOL-100. One question from each of the 24 areas of the WHOQOL-100 were included in the brief version to ensure the abbreviated measure remained a robust version of the original WHOQOL (WHO, 1996). The measure moves beyond amelioration of disease activity to include broader aspects of life impacted by health (Skevington, Lofty & O'Connell, 2004). The WHOQOL-BREF assesses four quality of life related domains including physical, psychological, social, and environmental; an overall score is also included. Questions are representative of the WHO's perspective on quality of life as a broader construct experienced by an individual within the culture they are nested (Skevington, Lofty & O'Connell, 2003).

Examples of WHOQOL-BREF questions include: how would you rate your quality of life? Or how satisfied are you with yourself? Questions are scored in a positive direction (e.g.: higher scores indicate higher quality of life) using four types of 5-point Likert interval scales. Scales are constructed to capture four specific factors including: intensity, capacity, frequency, and evaluation (for example: 1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Neither satisfied nor dissatisfied, 4 = Satisfied, 5 = Very satisfied) (WHO, 1996; Skevington, Lofty & O'Connell, 2003). Manual scoring is a two-phase process that converts raw scores to a 4-20 scale and then to a 0-100 scale (WHO, 1996). Reliability and validity are acceptable for each scale (a >.7) (Skevington, Lofty & O'Connell, 2003).

In addition to the measures noted above, a standardized rubric was created to capture qualitative medical record data for study participants. The rubric was used to organize the retrospective medical record documentation from the initial patient assessment, intake, course of treatment, and discharge. Intake documentation provided a comprehensive record of historical and current demographic, and biopsychosocial information along with current social supports, family of origin and trauma-related information (e.g.: physical, sexual, emotional abuse and neglect). Intake documentation also provided a current and historical record of the patient's physical and psychological illness activity (e.g.: vital signs, medication/treatment regiments, and biopsychosocial symptomology). Data related to application of the MEND intervention and the patient's biopsychosocial process was obtained through daily and weekly treatment notes and updates documented by MEND marriage and family therapists, as well as the MEND psychiatrist, and MEND nurse. Careful attention was paid to treatment notes and updates that spoke to psychosocial stress as well as the processing of CSA and other childhood traumas in conjunction with the patient's movement through the four phases of the MEND intervention. Lastly, discharge notes and updates were reviewed to capture the patient's biopsychosocial markers up to the final days of treatment (e.g.: vital signs, mood/affect, medication/treatment regiments, and social supports).

Analytic Strategy

The study utilized different types of strategies for each specific aim. Aim 1 employed a multiple case study analysis to capture both qualitative and quantitative analysis. Aim 2 will employed a multiple linear regression analysis. Each method was intended to provide sufficient analyses to answer each of the questions contained in the two specific aims.

Analytic Strategy - Specific Aim 1

Specific Aim 1 hypothesized that the MEND psychosocial, family-based intervention would demonstrate an increase in HRQOL in women with CSA who reported at least one chronic illness and comorbid mental health and socio-relational issues. The hypothesis was supported by the three study propositions contained below.

Proposition 1: Women with a history of CSA experience an increase in biopsychosocial dysfunction beginning in childhood.

Proposition 2: Women with a history of CSA who present for behavioral health services have current challenges in biopsychosocial domains.

Proposition 3: Proposition 3: Application of MEND, a psychosocial, family-based intervention will result in an increase in health-related quality of life for women with a history of CSA.

Analysis of Specific Aim 1 was carried out through a multiple case study analysis. This analysis was performed through the application of multiple case study methodology defined by Robert K. Yin (2018). A primary goal of the multiple case study analysis was to replicate findings across cases using an inductive approach that considered recurring patterns for the overall purpose of generalization across study participants (Yin, 2003).

In accordance with Yin's methodology, an initial step in the case study design was the development of theory (Yin, 2003). The proposed theory was captured in Specific Aim 1 and further expanded upon through the three corresponding theoretical propositions. The three propositions defined above were created to guide the overall case study analysis (Yin, 2018). These propositions served as the theoretical foundation for the study of cases. To support the proposed theory, individual cases were selected based on their correlation to the study topic and the proposed theory therein. This process ensured cases shared experimental similarities that correlated directly to the overall hypothesis (Yin, 2018). For example, each individual case represented a woman with a history of CSA as identified during the psychosocial assessment performed at intake and reiterated over the course of treatment through therapist notes. In addition, each case study was comprised of a woman with at least one chronic illness and comorbid mental health issue(s) and successful completed the MEND intervention (each of which was determined through the medical record). While the individual cases were similar, they also contained experimental differences (Yin, 2018). These differences were intended to strengthen the generalizability of study findings to women with diverse backgrounds and histories. Differences included variations in race, sexual orientation, socio-economic status, physical illness typology, symptomology, and CSA severity.

Data collection was organized within a rubric that facilitated the collection of biopsychosocial and therapeutic treatment information. To that end, a database was created in an Excel format that contained an individual rubric for each patient who participated in the study. The individual rubrics were completed by this author (a trained MEND therapist) and a research assistant (a trained MEND student therapist). The rubric was securely stored on a shared drive at the Loma Linda University Behavioral Medicine Center. The rubric was also pre-approved by members of the dissertation committee to ensure a comprehensive collection of biopsychosocial and treatment data was achieved.

Once a rubric was completed for each of the individual cases, this author and the research assistant analyzed the data based on each of the three propositions. Beginning with the first proposition, cases were reviewed to determine whether or not the data supported the original proposition. This process was performed until each case study had been analyzed in light of each proposition and necessary adjustments and expansions to the original propositions were carried out. The analysis was conducted by this author and the research assistant to facilitate member checking for the purpose of accurate interpretation of the findings (Baxter and Jack, 2008). Each individual case and the findings therein were summarized through case narratives that provided an analysis of each participant’s biopsychosocial and treatment experience. Results of the analysis were labeled according to case number and proposition number. The findings from each individual case narrative were then be braided together through a cross-case analysis intended to support the original theory and propositions of this study (Baxter and Jack, 2008). The purpose of the individual and aggregate approach was to capture the within and between methodology that undergirded the overall structure of the multiple case study (Baxter & Jack, 2008; Yin, 2003).

In addition to the rubric, a quantitative component was included for analysis in each of the individual case narratives and then summarized for the aggregate cross-case analysis. The quantitative measure consisted of the intake and discharge scores contained in the WHOQOL-BREF. This process analyzed participant WHOQOL-BREF outcomes at two timepoints. The first timepoint was the date of intake and the second timepoint was the date of discharge. Inclusion of the quantitative data provided rationale for a multiple case analysis. Yin (2018) ascertains that inclusion of a qualitative and quantitative research approach within a multiple case study analyses allows for the collection of "a richer and stronger array of evidence than can be accomplished by any single method alone" (p. 63).

Through the multiple case study analyses, this researcher strived to incorporate an expansive amount of information into the data collection process. This breadth of information was intended to capture the experience of each patient for the purpose of case study synthesis and overall generalization of study findings. The final step of the study was to articulate study results in a publishable paper format wherein findings related to the original hypothesis and the corresponding propositions were provided.

Analysis of Aim 2

Specific Aim 2 hypothesized that the MEND intervention would improve HRQOL in female patients with/without CSA who report at least one chronic illness and a comorbid mental health issue. To assess HRQOL outcomes, the WHOQOL-BREF total score functioned as the dependent variable while CSA versus no CSA, age, treatment days and ethnicity functioned as independent variables.

WHO-BREF total scores were retrieved from a dataset maintained by the MEND Administrative Assistant and monitored by the MEND Director. The dataset was stored on a secure share drive located at the Loma Linda University Behavioral Medicine Center. Patient information from the original dataset was copied into a secondary dataset for the purpose of this study. The study database was also be stored on the secure share drive.

The study dataset was analyzed by this research assistant (a trained MEND therapist) and a research assistant (a trained MEND therapist). Through the initial data analysis, male patients were identified through the medical record and subsequently removed from the study dataset. Once this process was complete, the medical record of each female patient was reviewed through the psychosocial assessment performed at intake and through a review of treatment notes to identify female patients with or without a history of CSA. In addition to CSA data, medical records for each patient were reviewed for age, ethnicity, and treatment days. The completed dataset contained a sample size of 105 patients.

Measures

The WHOQOL-BREF is an abbreviated 26 item assessment developed as a shortened version of the WHOQOL-100. One question from each of the 24 areas of the WHOQOL-100 were included in the brief version to ensure the abbreviated measure remained a robust version of the original WHOQOL (WHO, 1996). The measure moves beyond amelioration of disease activity to include broader aspects of life impacted by health (Skevington, Lofty & O'Connell, 2004). The WHOQOL-BREF assesses four quality of life related domains including physical, psychological, social, and environmental; total and overall scores are also included. Questions are representative of the WHO's perspective on quality of life as a broader construct experienced by an individual within the culture in which they are nested (Skevington, Lofty & O'Connell, 2003). Manual scoring is a two-phase process that converts raw scores to a 4-20 scale and then to a 0-100 scale (WHO, 1996). Reliability and validity are acceptable for each scale (a >.7) (Skevington, Lofty & O'Connell, 2003. The measure was administered on the first and last day of treatment as a part of normal intake and discharge treatment protocols.

Categorical variables (e.g.: CSA versus no CSA, and ethnicity) were also incorporated into the study design in conjunction with continuous variables (e.g.: number of treatment days and age). As previously noted, these variables were maintained in patient medical records.

CSA endorsement (yes or no) was obtained by the research assistant through a review of the medical record via documentation provided at intake through completion of a psychosocial assessment. The psychosocial assessment asks the patient if they have a history of CSA. The patient response is captured by the MEND nurse and entered into the psychosocial assessment as a part of the patient's medical history. For the purpose of this study, the patient response was retrieved from the psychosocial assessment and entered manually into the study dataset (1 = yes or 0 = no).

Ethnicity was obtained by the research assistant through a review of the medical record. Once ethnicity was determined it was entered into the dataset through a series of numerical variables (1 = African American, 2 = Hispanic, 3 = White, 4 = Asian, 5 = Other). These categorical variables were later recoded through the data analysis process (0 = Non-White and 1 = White).

Number of treatment days was obtained through a review of the medical record by this author and the research assistant. Using the chart review function, the total number of appointments contained within the MEND Services Department were reviewed for attendance and then summarized. The resulting number of treatment days was entered into the dataset as a scale variable.

Age (at the time of MEND treatment) was obtained by the research assistant from the individual patient medical record and entered into the dataset as a scale variable.

Data Analysis

All data was extracted from the electronic medical record and entered into an SPSS 25.0 database (IBM, 2017). The data was checked for missing data and the ability of the data to support the assumptions of linear regression. To address the issue of missing data, a Chi-Square test of independence was performed. The authors predicted a level of missing data due to the natural clinical setting wherein unanticipated discharges will result in patient attrition. Therefore, missing data was treated as missing at random (MAR). The data was analyzed to ensure the assumptions of regression were consistent with the specifications outlined by Tabachnick and Fidell (2007).

CHAPTER 5

A MULTIPLE CASE STUDY ANALYSIS FOR THE BIOPSYCHOSOCIAL TREATMENT OF WOMEN WITH A HISTORY OF CHILDHOOD SEXUAL ABUSE

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Abstract

Childhood sexual abuse remains an ever-present issue impacting approximately one in four women in the United States (Trask, Walsh, & DiLillo, 2010; Irish, Kobayashi, & Delahanty, 2009). The consequences of childhood sexual abuse on women's biopsychosocial health remain a significant concern. These consequences have been extensively documented in the historical literature. To ameliorate the negative outcomes of childhood sexual abuse in women, interventions have been designed and tested. These interventions have been fruitful, particularly when considering psychosocial domains of health. However, a gap exists within the realm of evidence-based treatment interventions. At the time of this study there is not a known intervention designed to ameliorate biopsychosocial health and health related quality of life stressors associated with childhood sexual abuse. This study employed a multiple case study design to examine childhood sexual abuse, and biopsychosocial functioning and health related quality of life in women over the life course. Additionally, the study demonstrated the ability of a systemic intervention to improve biopsychosocial functioning and health related quality of life in women with a history of CSA, chronic illness and comorbid mental health issues.

Introduction

Estimates show between 20 to 30 percent of women experience childhood sexual abuse (CSA) (Trask, Walsh, & DiLillo, 2010; Irish, Kobayashi, & Delahanty, 2009). CSA is uniquely positioned within the study of child abuse because of the implications to women's biopsychosocial health (Wegman & Stetler, 2009; Trask, Walsh, & DiLillo, 2010; Goodwin and Stein, 2004; Kendall-Tackett, Williams, & Finkelhor, 1993). For many women, the consequences of CSA begin at the time of trauma and extend over the life course (Felitti, 1998; Kendall-Tackett, Williams, & Finkelhor, 1993). Treatment interventions exist to ameliorate the psychosocial sequelae of CSA, however few if any interventions are designed to improve biopsychosocial functioning and health-related quality of life (HRQOL). Rather these interventions focus on addressing the psychosocial consequences of CSA. HRQOL can be defined as a person's perception of physical and mental health as it is nested within their specific cultural and value-based context (Skevington, Lofty, & O'Connell, 2004). This study employed a multiple case study design to examine the effects of CSA on biopsychosocial and HRQOL in women beginning in childhood and extending over the life course. Additionally, the study demonstrated the ability of a systemic intervention to improve biopsychosocial functioning and HRQOL in women with a history of CSA, chronic illness (CI) and comorbid mental health issues.

Childhood Sexual Abuse

The CDC defines CSA as "inducing or coercing a child to engage in sexual acts" that include "fondling, penetration, and exposing a child to other sexual activities" (2017). This definition recognizes the various typologies of CSA. Abuse typology is relevant to the study of women's HRQOL because of the correlation between CSA abuse severity and later biopsychosocial outcomes (Dube, Anda, Whitfield, Brown, Felitti, Dong, & Giles, 2005; McCarthy-Jones & McCarthy-Jones, 2008; Felitti, 1998). For example, McCarthy-Jones & McCarthy-Jones (2008) treated CSA as a categorical variable consisting of talk, touch, and intercourse when conducting their study on the health-related implications of CSA in adult women.

In addition to CSA severity, HRQOL outcomes are also influenced by familial support. Women from stable, healthy families appear to be more resilient in the face of CSA than women from unstable, and often dysfunctional families (Bonanno, 2005). Women survivors from unstable families are 2.0 – 3.4 times more likely to report concurrent physical and emotional abuse, and neglect when compared to non-abused counterparts (Dong, Anda, Felitti, Dube, Williamson, Thompson, Loo, & Giles, 2004). Concurrent abuses often occurs as a result of familial dysfunction including: parental psychopathology, maternal or paternal alcoholism, illicit drug use, low parental education levels low, socio-economic status, and parental criminality (Musliner & Singer, 2014: Powers, Ressler & Bradley, 2009; Felitti, 1998; Nelson, Heath, Madden, Cooper, Dinwiddie, Bucholz, Glowinski, McLaughlin & Martin, 2002; Fergusson, Boden & Horwood, 2008). For these women, concurrent abuses and familial distress exacerbates stress and influences negative biopsychosocial outcomes associated with CSA (Heim et al., 2000).

Biological Health

Studies demonstrate a higher prevalence of chronic illness (CI) in women survivors of CSA (Felitti, 1991; Wegman & Stetler, 2009; McCarthy-Jones & McCarthy-

Jones, 2008). Predominant CIs include; cancer, liver disease, gastrointestinal disorders, gynecological pain, chronic pain, cardiopulmonary disease, hypertension, cardiovascular disease, and obesity (Felitti, 1998; Irish, Kobayashi, & Delahanty, 2010; Hosang, Johnson, Kiecolt-Glaser, Gregorio, Lambert, Bechtel, Hearne, Herron & Glaser, 2013; Goodwin & Stein, 2004). CSA has also been linked to increased somatic sequelae (Finestone, Stenn, Davies, Stalker, Fry, & Koumanis, 2000; Irish, Kobayashi, & Delahanty, 2010).

Psychological Health

CSA has been linked to comorbid mental health diagnoses that present as: MDD, GAD, substance abuse disorder, and PTSD (Springer, Sheridan, Kuo, & Carnes, 2007; Fergusson, Boden, & Horwood, 2008). CSA has also been associated with higher levels of suicidal ideation and completed suicides when compared to non-abused peers (Paolucci, Genuis, & Violato, 2001; McCarthy-Jones & McCarthy-Jones, 2008). Because CSA increases feelings of guilt and shame, women survivors are prone to isolation, maladaptive sexual encounters, self-harm behaviors and potential re-victimization (Feerick & Snow, 2005; Wegman & Stetler, 2009; Vaillancourt-Morel, Godbout, Labadie, Runtz, Lussier, & Sabourin, 2015).

Social Health

MacIntosh and Johnson (2008) found women with CSA long for healthy relationships, but these relationships tend to be elusive due to family of origin (FOO) issues, insecure attachment, low self-esteem, and concurrent pathologies. CSA has been linked to marital stress, divorce and remarriage, reduced partner support, and increased levels of domestic violence, partner emotional unavailability, partner alcoholism, sexual dysfunction, and poor relational outcomes (Felitti, 1991; Nelson & Wampler, 2000; MacIntosh & Johnson, 2008; Dube et al., 2015; Nelson et al., 2002). Survivor mothers also experience distress around setting boundaries, maintaining developmentally appropriate roles, providing discipline, and mitigating negative multigenerational patterns (Cohen, 1995).

Treatment Options

Presently, therapies such as Dialectical Behavioral Therapy, and Emotionally Focused Therapy for Couples exist to treat the psychological and social consequences of CSA (Steil, Dyer, Priebe, Kleindienst & Bohus, 2011; Linehan, 1993; MacIntosh & Johnson, 2008). Whiel there is a benefit to addressing these psychological outcomes, the programs overlook the interdependent, biopsychosocial outcomes related to CSA, as well as the CI outcomes that result from psychosocial stress.

To address the negative health outcomes associated with CSA, the authors have considered an ecological framework that conceptualizes an individual with CI as participating in an interdependent network of social and physical environments (Kazak & Nachman, 1991; Stokols, 1996). Studies have shown positive results in the treatment of CI and comorbid psychosocial issues through application of an ecological lens that supports family system involvement (Ellis, Frey, Naar-King, Templin, Cunningham & Cakan, 2005; Distelberg, Williams-Reade, Tapanes, Montgomery & Pandit, 2014; Wysocki, Harris, Buckloh, Mertlich, Lochrie, Mauras & White, 2007; Ellis, Naar-King, Chen, Moltz, Cunningham & Idalski-Carcone, 2012).

These interventions demonstrated an increase in treatment adherence and a decrease in psychosocial stressors, illness activity and illness-related family conflict with increased cost effectiveness and stronger post treatment outcomes (Distelberg et al., 2014; Wysocki et al., 2007; Ellis et al., 2012; McBroom & Enriquez, 2009; Distelberg, Emerson, Gavaza, Tapanes, Brown, Shah & Williams-Reade, 2016: Eccleston, Palermo, Fisher, & Law, 2012; Crane & Christenson, 2014). At the time of this study, a gap exists in the literature for an ecologically based, psychosocial, systemic intervention specifically designed to reduce stress, and ameliorate biopsychosocial illness activity in women with a history of CSA.

Mastering Each New Direction

MEND (Distelberg et al., 2014; Distelberg et al., 2016) is an intensive outpatient program created for the treatment of biopsychosocial stressors that arise through CI and pain. The MEND model was designed to bring greater functioning to individuals and families dealing with CI by reducing individual and systemic stress, increasing treatment adherence and reducing the mental health comorbidities associated with CI. Adult MEND patients struggle with CI and comorbid psychological illness. MEND patients also struggle with various relational, financial, and occupational issues that inhibit physical, emotional, and social functioning, increase stress and exacerbate disease activity. MEND utilizes a multidisciplinary approach that integrates couple and family therapists, psychologists, psychiatrists, researchers, and students.

Methods

A case study analysis was utilized to evaluate the ability of the MEND intervention to improve biopsychosocial functioning and HRQOL within a population of adult women struggling with CSA, CI, and comorbid mental health issues. The authors hypothesized the MEND model has the capacity to improve HRQOL through an increase in biopsychosocial functioning.

Population

MEND adult treatment is performed through a combination of partial hospitalization (PHP) and intensive outpatient programs (IOP). PHP provides medical and psychological stabilization for patients who do not meet criteria for hospitalization but who are experiencing an acute level of biopsycho symptomology that necessitates daily monitoring by the MEND multidisciplinary team. PHP provides treatment Monday – Friday (5 hours daily). Treatment is performed by the MEND psychiatrist, nurse, and couple and family therapists. Patients who participate in this level of care are provided with individual and family therapy, psycho-education and personalized daily interventions. Patients admitted into MEND PHP often remain at this level of care for two weeks before titrating to MEND IOP.

MEND IOP is for patients who are deemed medically and psychologically stable however, they are monitored by the MEND psychiatrist who provides medication management and the MEND nurse who monitors patient vital signs and overall health. IOP operates three days per week (3 hours daily). IOP sessions consist of group check-in, individual interventions, and multifamily groups. Patients typically remain in IOP for approximately 30 treatment days. MEND treatment sessions are facilitated in a group setting that encourages bidirectional processing and daily familial involvement as well as couple, and family sessions to ensure systemic goals for treatment are achieved.

Participants

The study was approved by the Loma Linda University institutional review board. This study utilized archival data from MEND IOP medical records. A review of medical records produced 12 patients who met criteria for inclusion. Criteria was designed to capture females over 18 years with a self-reported history of CSA, at least one CI, a comorbid mental health issue and had a completed full course of MEND. The sample included a demographically diverse group of women (see Table 1). Participants reported concomitant physical health diagnoses that included a mixture of high blood pressure, chronic migraines, chronic pain, lupus, hypertension, fibromyalgia, functional movement disorder, strokes, and pseudo and non-pseudo seizures. Participants also reported concurrent mental health diagnoses that included: MDD, PTSD, GAD, BPD, and dissociative disorder.

CSA was self-reported by the patient at intake and during treatment. Abuse experiences were varied, however common themes included early abuse (mean 6.3 years of age) and CSA with penetration which effected 8 out of 12 participants (67%). Of the 8 out of 12 participants who experienced penetration, 7 reported a history of intermittent molestation and/or penetration by more than one perpetrator over the course of childhood, and 3 reported ongoing severe abuse due to long-term perpetrator exposure. Of the 4 participants who reported CSA molestation, 2 reported multiple perpetrators over the course of childhood, and 2 reported frequent, and long-term molestation as a result of an intrafamilial perpetrator.

Table 1

Characteristics of Participants (N = 12)

Age, M	46
Sexuality, *N*	
Heterosexual	8
Lesbian	1
Unspecified	1
Bisexual	2
Ethnicity, *N*	
African-American	2
Hispanic	1
Caucasian	9
Education Level, *N*	
Less than High School	
High School Graduate	10
Some College	2
Marital Status, *N*	
Married	5
Divorced	2
Married Again	2
Single	4
Childhood Sexual Abuse Severity, *N*	
Including Rape	8
Including Touch/Molestation	4

Measures

This study included quantitative data from the World Health Organization Quality of Life (WHOQOL-BREF| Skevington, Lofty, & O'Connell, 2004). In accordance with MEND program, the WHO-BREF measure is administered on the first and last day of treatment. The WHOQOL-BREF is an abbreviated 26 item assessment developed as a shortened version of the WHOQOL-100. One question from each of the 24 areas of the WHOQOL-100 were included in the brief version to ensure the abbreviated measure remained a robust version of the original WHOQOL (WHO, 1996). The WHOQOL-BREF assesses four quality of life related domains including physical, psychological, social, and environmental; a total and overall score is also included. Manual scoring is a two-phase process that converts raw scores to a 4-20 scale and then to a 0-100 scale (WHO, 1996). Reliability and validity are acceptable for each scale (a >.7) (Skevington, Lofty & O'Connell, 2003).

In addition to the measures noted above, a standardized rubric was created to capture qualitative medical record data for each of the 12 study participants. The rubric was used to organize retrospective medical record documentation from the initial patient assessment, intake, course of treatment, and discharge. Included in the rubric was: 1) Intake documentation: provided a comprehensive record of demographic, and biopsychosocial information along with current social supports, family of origin and trauma-related information as well as vital signs, medication/treatment regiments, and symptomology. 2) Daily session notes: Data related to application of the MEND intervention and the patient's biopsychosocial process. These noted were authored by the MEND couple and family therapists, psychiatrist, and nurse. 3) Treatment notes and updates: regarding the current level of psychosocial stress as well as the procession of CSA and other childhood traumas in conjunction with the patient's movement through the four phases of the MEND intervention. 4) Discharge notes and updates: were reviewed to capture the participant's biopsychosocial markers up to the final days of treatment (e.g.: vital signs, mood/affect, medication/treatment regiments, and social supports) and after completion of the MEND intervention.

Data Collection

Data collection was performed by one trained MEND therapist and one trained MEND student therapist. Data was retrieved from the archival medical record and logged into the rubric. The rubric was stored on a secured and private share drive at the Loma Linda University Behavioral Medicine Center. This record also includes the WHO-QOL data.

Data Analysis

Analysis was performed through the application of a case study methodology (Yin, 2003). A primary goal of this multiple case study approach is to capture quantitative and qualitative data for the purpose of comparing and contrasting findings within and between study participants. This approach allows for application of replication logic through a deductive approach that considers findings from multiple cases for the overall purpose of generalization across study participants (Yin, 2003).

Specifically, this study began with the initial hypothesis: The MEND biopsychosocial, family-based intervention will demonstrate an increase in HRQOL in women with CSA who report at least one CI and comorbid mental health and socio-relational issues. Three study propositions were created to support the initial hypothesis.

Proposition 1: Women with a history of CSA experience an increase in biopsychosocial dysfunction beginning in childhood.

Proposition 2: Women with a history of CSA who present for behavioral health services have current challenges in biopsychosocial domains.

Proposition 3: Application of MEND, a psychosocial, family-based intervention will result in an increase in health-related quality of life for women with a history of CSA.

Each of the three propositions were applied to the individual cases, beginning with case #1. Assuming case #1 supported the proposition hypothesis, the hypothesis was then evaluated in Case #2 and so forth. If a case did not support a proposition, the proposition was modified so that it fit that case as well as the previously analyzed cases. This new proposition would then be evaluated with the next case.

Results

Proposition 1: Women with a history of CSA experience an increase in biopsychosocial dysfunction beginning in childhood.

Biological and psychological functioning in childhood. Consistent with prior work, the case study found a significant reduction in biological functioning across all 12 participants. The median of physical health diagnoses per participant was 6, the range was 2 – 19, which is well below the clinical normative level for the WHO-BREF. Given the level of illness activity in adulthood, a retrospective review of participant medical charts was performed to assess for physical health symptomology in childhood. The results were highly limited in scope. Specifically, there were few noted childhood experiences of physical health limitations at intake and over the course of treatment. This finding was present even in the face of early childhood rape and sodomy that would have resulted in physical pain and illness sequelae (Anderson, Mangels & Langsam, 2004).

These findings reveal the potential for limited mind and body connections exhibited by victims of CSA. To this end, patients reported patterns of disassociation, and maladaptive coping beginning in childhood. Additionally, patients commonly reflected early childhood experiences of suicidal ideation (SI) and suicide attempts (SA). There was a strong tendency toward SI/SA in 9 of the 12 cases. SA was reported in Cases 4, 5, 10, and 12. Cases 4, 8, and 10 attempted suicide for the first time between the ages of 10 – 12 years. This finding indicates that SI and SA may present as the first known symptom in female children struggling with severe and frequent CSA. Later on physical CI symptomology develops.

In addition to SI and SA, self-harm behaviors and maladaptive coping skills were present across multiple cases including: cutting, burning, eating disorders (binging and purging), risky sexual behaviors, substance abuse and isolation. Taken together, it is likely that physiological effects were present at the time of CSA, but CI symptomologies were not explicitly experienced by the child.

Socio-relational functioning in childhood. All cases exhibited significant familial dysfunction during and after the time of abuse. To this end, patient families were deemed “multidimensionally unstable.” Multidimensionally unstable families engendered patterns of physical and emotional abuse, neglect, parental substance abuse, divorce, domestic violence, low socio-economic status, and interaction with law enforcement and government agencies. For example, Case 3 reported “my mom was drunk, having sex with her boyfriend, but I wanted her so I was noisy, I must have been about 5 years old, she came after me naked with a hairbrush and beat me.” Case 6 shared in therapy: “my mother would be drunk; she would cry for me to participant (in sex) with her, I couldn’t say no to her.” These FOO findings exposed patterns of familial distress and instability that resulted in a dynamic of repeated exposure to harm and abuse (Fergusson, Boden & Horwood, 2008; Wegman & Stetler, 2009). For example, 9 cases reported multiple sexual assaults before the age of 18 wherein the abuse was classified as severe because of penetration or frequency and duration. One patient reported being raped by her mother’s boyfriend at the age of 7 years and molested by a family friend from 10 – 12, and her step-brother from the ages of 10-15.

Multidimensionally unstable families also found to minimize the severity of the abuse during childhood. For example, trauma was exacerbated by familial reactions to CSA that silenced and shamed patients. Retraumatization occurred when family members refused to intervene and through victim blaming or denial. Case 9 reported in therapy: “Why did no one care?” This sentiment was echoed across multiple cases as familial reactions led to feelings of guilt and shame. These findings were consistent with Nasim and Nadan (2013) who posited “Being silenced engenders in the victim feelings, of guilt, shame, and confusion” (p. 368). The lack of familial support resulted in a decreased capacity for resilience in the face of severe CSA (Musliner & Singer, 2014).

Bullying was an additional childhood factor that reduced resilience and increased childhood stress. Bullying was present in Cases 1, 3, 4, 5, 6, 7, 8, 9, 10, and 11. Incidents of bullying occurred either in the home from siblings or step-parents (Cases 3, 5, 7, and 9) or in school (Cases 1, 3, 4, 6, 10, and 11) or both. These incidents enhanced childhood narratives of powerlessness subsequently reducing self-worth and engendering fear, guilt, shame, and subsequently stress.

Proposition 2: Women with a history of CSA who present for behavioral health services have current challenges in biopsychosocial domains.

Challenges in biological health. While the data around childhood physical health was limited in scope, adult physical health data was vast and informative. Participants reported multiple physical health issues that were both biological and somatic in nature. Diagnostic themes resulted in the following patterns. Migraines and/or chronic headaches were reported in 58% of participants. Pseudo non-epileptic seizures and/or epileptic seizures were reported by 33% of participants. Fibromyalgia and general myalgia were reported by 42% of participants. Chronic pain and pain related issues were particularly prevalent as 75% of participants reported an issue with ongoing bodily pain. Auto-immune disorders such as Lupus and rheumatoid arthritis were present in 17% of participants. Hypertension and heart-related issues were found in 33% of participants. A wide range of additional illnesses included: diabetes, irritable bowel syndrome, functional movement disorder, pancreatitis, and vertigo. Data revealed 67% of participants concurrently struggled with obesity (BMI of 30 or above). This finding was consistent with previous studies that found correlations between increased BMI and CSA severity (Felitti, 1991; McCarthy-Jones & McCarthy-Jones, 2008). The mean physical health subscale of the WHO-QOL at intake was 35 (low = 0-60, moderate = 61-80, high = 81+).

Challenges in psychological health. Beginning with case 1, the psychological implications of CSA were undeniable.

Case Study 1 Intake Assessment: "Patient presented with anxious mood which she reported includes excessive worrying, shakiness, fidgeting, feeling "sick", and clammy *also presented with depressed mood evidenced by poor appetite, poor concentration, low energy levels, poor motivation, poor sleep, and difficulty with short term memory. Patient also reported having a history of SI."*

Psychological manifestations of CSA continued into adulthood. The study found 10 patients were diagnosed with recurrent and severe MDD without psychotic features. Cases 4 and 10 were diagnosed with MDD with psychotic features. Anxiety diagnoses were reported in cases 3, 4, 5, and 6, however, patients self-reported feelings of anxiety or hypervigilance in all cases except 7 and 12. PTSD was reported in cases 3 and 6. BPD was reported in cases 3, 4, 10. ADD was reported in cases 8 and 12.

Suicidal ideation (SI) and suicide attempts (SA) increased as participants transitioned to adulthood. Prior works support the high rates of SI and SA reported by patients (Dube et al., 2005; Noll, 2008). The percentage of SI or SA in childhood was 75%; by adulthood this number rose to 100%. Participants reported multiple hospitalizations. Even in higher functioning participants such as Case 1, 3, and 9 prior hospitalizations had ensured safety.

Case 11 reported SI with no plan due to spiritual beliefs.

Case 11 Intake Assessment: Patient reported at times having thoughts of not wanting to live because she is alone, patient stated that she would never follow through with the thoughts due to her religious and spiritual beliefs.

Although much of the findings to this point were negative, in that they negatively affected the patient, one finding did show some positive benefits for the patients. Spirituality seemed to be a positive coping strategy for a few of the patients and might be a neutralizing factor in the psychological consequences of CSA. For example, Cases 2, 9, and 11 reported a strong relationship with their God and each patient displayed a reduction in adulthood SI and SA. Specifically, Case 2 and 9 reported less maladaptive coping behaviors in adulthood than other patients. These findings were consistent with prior work regarding the role of spirituality in resiliency of CSA survivors (Banyard & Williams, 2007: Grossman, Cook, Kepkep, & Koenen, 1999).

While the use of maladaptive coping behaviors may have been mediated by spirituality in some cases, many participants reported maladaptive coping behaviors well into adulthood. These behaviors included: self-harm (e.g.: cutting, burning), isolation, eating disorders (binging and purging), risky sexual behaviors (casual sex with several partners, sex clubs, and dangerous power-based scenarios). Alcohol/substance abuse was associated with Cases 2, 3, 4, 5, 7, and 11.

The combined mental health findings of participants at the time of MEND intake demonstrate a steady increase in severity and symptomology from childhood to present day. These findings parallel prior studies related to the psychological implications of CSA over the life course (Springer, Sheridan, Kuo, & Carnes, 2007; Crozier et al., 2011; Fergusson, Boden, & Horwood, 2008). As a result of the stress of comorbid psychological issues, SI and SA, and maladaptive coping skills at intake, the mean psychological subscale of the WHO-BREF was 27.08 (low = 0-60, moderate = 61-80, high = 81+).

Challenges in socio-relational health. All patients named their current adult partners as their primary attachment figures even though these relationships were consistently fraught with relational distress. Distress included power differentials that favored the partner in Cases 1, 2, 4, 5, 7, and 9. Power differentials included reduced involvement in decision making, partner assumption of a parenting role, limited access to financial and household decisions, and low occupational support. It would appear the patterns of bullying and victimization in childhood (noted above) carried forward into these adult partner relationships. This type of trauma reenactment has been shown to cause socio-relational stress in CSA survivors (Nasim & Nadan, 2013: Buttenheim & Levendosky, 1994). In multiple cases, participants and their partners consciously and subconsciously engaged in trauma reenactment scenarios that fostered power imbalances. Many of these scenarios were derived from unhealthy illness attachments. This was most evident in Case 7 wherein illness was used by patient 7's partner to foster isolation from family, friends and community supports as well as occupational opportunities and financial means. In addition to illness-related power imbalances, participants in cases 3, 4, 5, 7 and 8 reported a significant history of physical, emotional, and verbal abuse from past and/or current partners. Case 4 and 5 reported spousal rape as an additional revictimization. To this end, patients that experience this level of trauma as a child are likely to partner in their adulthood with an individual that replicates the multidimensional unstable patterns they experienced as a child.

As with the limitation noted above regarding romantic partnerships, patients replicated multidimensionally unstable familial patterns in their motherhood role. Patients reported an increase in socio-relational stress due to difficulties in setting boundaries, maintaining appropriate roles and cultivating secure attachment. Case 2 reported distress in maintaining bedtimes, meal times, gaming, media, and spending. Cases 3, 4, 5, 7, 10, and 11 paralleled Case 2 as participants reported similar issues with boundaries, communication, and parentification. Cases 3, 4, 5, 7 and 10 reported dysfunction due to psychopathology and/or substance abuse.

Case Study 5 Intake Assessment: "Patient reported having trouble relaxing and becoming easily annoyed or irritated to the point of often isolating away from friends and family to avoid "outbursts." Per patient, her husband now spends the majority of the time with the children because she feels overwhelmed and irritated by them."

Additionally, patients did not engage in occupational or community supports. Cases 1, 2, 3, 5, and 9 maintained employment and/or educational involvement; all other participants received SSI or disability. All participants with the exception of 2 and 9 were isolated from community based social networks (e.g.: church, AA, support groups). As a result of combined family of origin dysfunction, and poor partner, family, and community support the social support subscale of the WHO-QOL demonstrated a mean of 43.75 at intake for all patients (low = 0-60, moderate = 61-80, high = 81+).

Cases 2 reported a supportive relationship with husband as well as involvement in a church community and Alcoholics Anonymous. This was reflected in her WHO-QOL environmental scale at intake of 90.62 (significantly higher than the normative median value). Case 9 reported a secure attachment with her children as well as a meaningful relationship with God and active participation in her church community. This was also reflected in her WHO-QOL environmental scale at intake of 78.15.

Proposition 3: Application of MEND, a psychosocial, family-based intervention will result in an increase in health-related quality of life for women with a history of CSA.

As noted in prop 1 and 2, patients often presented with significant dissociations between their physiological and emotional/psychological processes. Throughout the program, patients made congruent mind and body connections that fostered improvements in HRQOL. Specifically, there were notable improvements in the WHO-QOL measurement across all cases from intake to discharge as demonstrated through mean differences as well as an independent measures t test that demonstrated WHO-QOL total scores were significantly higher for patients at discharge, t(12) = -8.23, p < .000 (please see Tables 2 and 3). The WHO-QOL "overall" sub-scale ranged from 62.50 to 100 at discharge (low = 0-60, moderate = 61-80, high = 81+). The mean difference in the WHO-QOL overall subscale was 50.08 or a 185% increase. The WHO-QOL "total" score ranged from 59.16 to 90.74 at discharge. The mean difference was 37.03 or a 97% improvement.

Table 2

Results of WHO-QOL Pre to Post MEND Treatment

	Pre-MEND *M*	Post-MEND *M*	Variance	% Variance
Total Score	38.20	75.20	37.03	97%
Physical Health	33.33	74.70	41.37	124%
Psychological Health	27.08	66.32	39.24	145%
Social Relationships	43.75	74.30	30.55	70%
Environment	59.64	83.33	23.70	40%
Overall	27.00	77.08	50.08	185%

Table 3

Independent Group T-Test between Pre to Post Treatment

	Pre-Treatment		Post-Treatment		
	M	SD	M	SD	t-test
Total Score	38.20	8.77	75.20	12.87	-8.23***

***p<.000. n=12

While all patients demonstrated improvements in total and overall HRQOL as shown in the aforementioned WHO-QOL scores, 5 patients appeared to outpace their counterparts (Table 3). These five patients reported QOL scores that exceeded 80-points across all 6 subscales (low = 0-60, moderate = 61-80, high = 81+). Results demonstrated cases 2, 3, 6, 8, and 9 experienced these increases in spite of physical, and psychological symptomology at intake.

For example, Cases 6, and 8 were considered very low functioning at intake due to biopsycho symptomology that included heavy dissociative behaviors as well as language and cognitive delays. While Cases 2, 3, and 9 were higher functioning as demonstrated by reduced levels of biopsycho symptomology and involvement in family, work, school, church and community.

To better understand this finding, authors analyzed the data for correlations and associations between the various patients. The results of this analysis revealed that of the 12 participants, Cases 2, 3, 6, 8, and 9 demonstrated scores on the social health subscale that were greater than 80 points at discharge. Similarly these five cases had significant increases in social health throughout the program. For example, from intake to discharge these 5 cases improved their socio-relational WHOQOL scores to a range of 83.33 to 100 at discharge (mean score for these five was 90.00) this was an average of 48.32 increase overtime. Because this finding appeared to explain the improvement in overall HRQOL, an expansion of the original proposition 3 hypothesis was generated. This expanded hypothesis (Proposition 3a) considered the role of socio-relationships in the treatment outcomes of women with a history of CSA.

Table 4

Pre to Post Mastering Each New Direction (MEND; N= 12)

Case	Total Score		Physical Health		Psychological Health		Social Relationships		Environment		Overall Score	
	T_1	T_2	T_1	T_2	T_1	T_2	T_1	T_2	T_1	T_2	T_1	T_2
1	38.5	59.16	42.85	75	12.5	20.83	41.66	75	68.75	62.5	24	62.5
2	45.62	80.53	25	71.42	25	70.83	75	91.66	90.62	93.75	12.5	75
3	39.31	87.76	39.28	85.71	29.16	79.16	50	83.33	65.62	90.62	12.5	100
4	47.82	66.16	46.42	71.42	29.16	45.83	66.66	66.66	59.37	84.37	37.5	62.5
5	35.65	68.63	42.85	78.57	8.33	50	33.33	58.33	56.25	81.25	37.5	75
6	21.7	90.74	17.9	71.42	8.3	91.66	16.7	100	65.6	90.62	-	100
7	27.91	79.85	25	85.71	25	83.33	8.33	58.33	43.75	96.87	37.5	75
8	40.4	90.56	25	85.71	45.8	95.83	25	83.33	56.3	96.87	50	87.5
9	49.31	90.65	64.28	92.85	37.5	87.5	41.66	91.66	78.12	93.75	25	87.5
10	30.83	59.16	25	50	20.83	54.16	58.33	66.66	37.5	62.5	12.5	62.5
11	33.03	68.75	21.42	75	37.5	62.5	25	50	43.75	81.25	37.5	75
12	48.33	60.5	25	53.57	45.83	54.16	83.33	66.66	50	65.62	37.5	62.5

In the five cases with significantly better outcomes, case analyses and clinical justification revealed patients were supported by healthy family members and partners over the course of treatment. In Cases 2, 8, and 9 partners participated in couple sessions held outside of the peer group. In Cases 3 and 6, children and siblings participated in family sessions held outside the peer group. Furthermore, these families participated in the MEND multifamily group. This dynamic allowed families to share and participate in the healing process.

Conversely, cases 1, 4, 5, 7, 10, and 11 experienced improvements to HRQOL as demonstrated in the WHO-QOL however their scores did not capture the same degree of change as counterparts. Application of Proposition 3a across the cases, revealed these patients did not have the same level of social support as the aforementioned group. The social health subscale of this group at discharge demonstrated a range of 50.55 to 75 and a discharge mean of 63.09 for a mean difference of 17.86. Case analyses revealed a variety of relational issues within the families of these patients. Case 1 was near divorce at the start of the program due to risky sexual behaviors that had broken her husband's trust and created significant distress. Cases 4, and 5 had a history of domestic violence and spousal rape by their husbands. Case 7 was actively in a domestic violence relationship at the time of treatment. Case 10, and 12 were single and estranged from their own family and children. Patterns in several of these cases reiterate findings within Proposition 1 and 2 wherein multiple patients experienced revictimization and retraumatization in adult relationships.

The results of these findings caused the authors to consider the role of partner and familial involvement in the processing of CSA. Patients who were supported by healthy partners and family members in the remembering and retelling of childhood trauma experiences appeared to have a more significant rate of change in HRQOL than their non-supported counterparts. These patients were able to work within their system to create relationships that were free of the guilt and shame of CSA. This process mediated the effects of childhood patterns of victimization and traumatization. While other patients were forced to relive childhood trauma through silencing, shaming, and revictimization. These patients were vulnerable to the same invalidating and shaming patterns of their multidimensionally unstable families of origin. The results of this dynamic are reduced HRQOL across multiple domains.

An additional finding relating to Cases 4, 10 and 12 was that of psychopathology. Each of these patients had an extensive psychological history that included multiple hospitalizations, mental health diagnoses, and suicide attempts. At discharge these patients presented with a range of complex symptomology that included psychosis, disassociation, pseudo non-epileptic seizures, and paranoia. These patients demonstrated a change in HRQOL as demonstrated through the WHO-QOL total score that increased from 38.93 at intake to 61.49 at discharge and the WHO-QOL that increased from 24.67 at intake to 62.50 at discharge. These scores were noticeably less than the overall case study scores presented in Table 2.

Discussion

The case study demonstrated multiple findings consistent with the extant literature beginning with the patient’s level of biopsychosocial illness acuity (Springer, Sheridan, Kuo, & Carnes, 2003; Wegman & Stetler, 2009; Herzer et al., 2010; Farr et al., 2011). Patients often struggled with physical health issues including chronic pain, migraines, seizures, autoimmune disorders and various forms of myalgia. Psychological diagnoses were also comprehensive as many patients reported MDD concurrent with either PTSD, GAD, BPD, or psychosis.

Socio-relational health was another case study finding that paralleled the literature by demonstrating the implications of trauma and victimization in patient FOO systems (Paras et al., 2009; Musliner & Singer, 2014). Many patients were raised in multidimensionally unstable families. The authors defined this term to capture the complexity of ecologically layered dysfunction and concurrent abuses present within the patient's family of origin. For patients, a multidimensionally unstable family meant repeated incidents of severe intrafamilial, and non-familial CSA abuses with physical, emotional abuse and neglect. The authors did not predict patients would report such severe CSA nor high levels of FOO distress. Therein, the case study highlights the association between multidimensionally unstable families, abuse severity and negative biopsychosocial outcomes present in the PHP or IOP level of care.

Furthermore, the study reiterates the long-term consequences of victim blaming. In all 12 cases, patients were retraumatized as children because of familial reactions or non-reactions to CSA that were invalidating, and disempowering. This finding supports prior work that speaks to the long-term consequences of ineffective parental reactions to CSA that leave patients feeling guilt and shame as painful stories were often used against them (Nasim and Nadan, 2013). This finding was demonstrated over the course of treatment when patients would attempt to share newly formed insights with partners. All too often, partners were unwilling to validate patient growth using dismissive language to marginalize and shame the patient. These bullying relationships were a theme throughout the case study. Patients who were bullied as children remained stuck in a pattern of trauma re-enactment that maintained power differentials and suppressed patient needs. Only cases that ameliorated trauma re-enactment scenarios experienced the full benefit of the MEND intervention. Other cases demonstrated improved HRQOL but not to the degree of socially supported patients.

Overall, the results of this study provide support for the effectiveness of a family therapy intervention in the treatment of biopsychosocial consequences of CSA in women survivors. This finding provides support for familial inclusion in the healing process. The MEND intervention allowed for systemic inclusion at all treatment stages thereby enabling the therapist to weave current and historic systemic issues into couple and family sessions to facilitate healing. This may have been different for patients participating in an individually based program such as DBT, or CBT. While these programs provide significant benefits to CSA survivors, they do not engage the weekly couple/family sessions and family is not often included to participate in the group dynamic. The findings of this case study demonstrate the importance of family in achieving the full benefit of treatment. This rationale is three-fold. First, family can act as a supportive witness collaborating with the therapist in supporting the patient as they tell their story (Nasim and Nadan, 2013). Second, the therapist is able to restructure the relationship by reducing imbalances of power that result from years of disempowerment and bullying. Third, application of a systemic intervention allows for an inclusion of the CSA survivor’s children. This study and prior works have shown the impact of CSA on mothering (DiLillo & Damashek, 2003). Inclusion of the children in treatment provides a gateway for change in multigenerational patterns.

This study provided several promising findings however, there were limitations. The study design is qualitative therefore findings should be considered as hypotheses or propositions for future empirical study and validation. This study is comprised of 12 female patients. While patients represented a diverse group with a range of biopsychosocial illness activity, it is possible that a larger sample would have lent different outcomes. The sample is representative of females with severe CSA. Outcomes may have been different if males were included or if mild or moderate CSA cases were available. The limitations noted above provide areas for future work that will expand the use of systemic interventions in the treatment of CSA survivors. A future study would include deductive analysis through quantitative measures over a larger sample size of males and females. This work may strengthen support for systemic interventions in the treatment of biopsychosocial consequences of CSA.

In conclusion, this case study provides preliminary, inductive results regarding use of the MEND psychosocial, family-based intervention in the treatment of women with a history of CSA and negative biopsychosocial outcomes. The findings of this study show promising results as demonstrated through case analysis and the WHO-QOL scores. This was demonstrated in all participants to varying degrees. An overarching finding of the case study was the importance of positive socio-relationships in the treatment of CSA. This finding brings hope to family therapists and CSA survivors as they embark on a journey towards health.

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CHAPTER 6

USE OF MEND: A BIOPSYCHOSOCIAL-FAMILY BASED INTERVENTION TO IMPROVE HEALTH RELATED QUALITY OF LIFE IN A SAMPLE OF CHRONICALLY ILL WOMEN WITH AND WITHOUT CHILDHOOD SEXUAL ABUSE

By

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Abstract

Chronic illness is an ever-present health issue impacting women on a global level (Sullivan, Weinert, & Cudney, 2003; Jenkinson & Cantrell, 2016), and chronic illness rates in women are exacerbated by childhood sexual abuse which results in a myriad of biopsychosocial implications to health (Irish, Kobayashi, & Delahanty, 2010). This study aimed to examine the ability of a psychosocial, family-based intervention to improve chronic illness outcomes by demonstrating an increase in health-related quality of life for women with and without a history of childhood sexual abuse. At the time of the study, the authors were unaware of an intervention designed to ameliorate the physical, mental, and social issues associated with chronic illness in a population of women living with chronic illness. This study utilized a multiple regression analysis to highlight improvements in health-related quality of life (HRQL) for women with at least one chronic illness and a comorbid mental health issue. Using the MEND psychosocial, family-based model as a model, this study demonstrated the ability of a systemic intervention to improve health related quality of life within the targeted sample.

Introduction

Chronic illness remains a growing and pervasive global issue impacting health-related quality of life (HRQL) and impeding the physical, psychological, and social domains of health (Meetoo, 2008). Studies estimate chronic illnesses comprise as much as 60% of the total global illness burden (Sullivan, Weinert & Cudney, 2003) making chronic illnesses a significant public health concern (Jenkinson & Cantrell, 2016). Women find themselves at the forefront of the chronic illness epidemic. Women experience a disproportionate amount of chronic illness activity due to health disparities and overall longer life expectancies (Warner, Roberts, Jeanblanc, & Adams, 2017; Lowe & McBride, 2012).

Chronic illness rates in women are further compounded by exposure to childhood sexual abuse (CSA) which effects an estimated 20 to 30% of women (Felitti et al., 1998; Kendall-Tackett, 2002; Trask, Walsh, & DiLillo, 2010; Irish, Kobayashi, & Delahanty, 2010). Meta-analyses and individual studies have examined the burden of CSA on women's health (Irish, Kobayashi & Delahanty, 2010; McCarthy & McCarthy-Jones, 2014; Talbot et al., 2009: Bonomi, Cannon, Anderson, Rivara, & Thompson, 2008). Findings reveal CSA contributes to increased rates of chronic pain, migraines, headaches, cardiac problems, hypertension, and gastrointestinal problems as well as somatic diagnoses. The rate of illness associated with CSA survivorship only adds to the overall chronic illness burden.

To address the needs of women struggling with chronic illness, many studies have highlighted a need for evidenced-based interventions designed to enhance the quality of life for women suffering in the face of chronic illness (Jenkinson & Cantrell, 2007:

Meetoo, 2008; Roux, Dingley, & Lewis, 2004). Due to the high correlation between CSA and chronic illness among women, this study's seek to do two things: (1) to examine the ability of a specific family-systems based, biopsychosocial intervention known as Mastering Each New Direction (MEND) to improve the health related quality of life (HRQL) among women suffering from chronic illness comorbid with a mental health diagnosis and (2) to explore the ability of MEND as an intervention in improving HRQL in a sample of women with a self-reported history of CSA (Tapanes, Distelberg, Williams-Reade, & Montgomery, 2015).

This study builds upon prior research by harnessing MEND's unique ability as an intervention to improve HRQL across the ecology of a patient's relational life. HRQL is understood as a person's perception of physical and mental health, in the context of the individual's cultural and value-based systems (Skevington, Lofty, & O'Connell, 2004). MEND has already demonstrated positive results in addressing the individual and systemic needs of pediatric chronic illness through increased pediatric treatment adherence and treatment cost effectiveness (Distelberg et al., 2016; Distelberg et al., 2014). Given that MEND uniquely approaches HRQL for patients through the lens of their relational ecology; this intervention was seen to have potential for CSA women that suffer from chronic illnesses. Using the WHOQOL-BREF as a measure of HRQL, this study analyzed two groups of women (CSA and no CSA). Both groups had a diagnoses chronic illness and a comorbid mental health diagnosis. This study utilized retrospective chart review data from 105 MEND female patients. 47.62% of these female patients had a history of CSA.

Literature Review

Chronic Illness and Mental Health in Women

Chronic illness is defined as any illness lasting at least three to six months that cannot be cured but rather is controlled (Meetoo, 2008: O'Halloran et al., 2004). Current estimates reveal as many as 25% of adults in the United States struggle with two or more chronic illnesses (Black & Ward, 2016). Most commonly, these illnesses include: heart disease, cancer, stroke, diabetes, and respiratory issues (Jenkinson & Cantrell, 2016).

Women are particularly at risk for debilitating chronic illness activity (Sullivan, Weinert, & Cudney, 2003; Jenkinson & Cantrell, 2016). For example: Ward and Schiller (2013) found women were more likely than men to find themselves managing multiple chronic illnesses simultaneously. In addition, women are slower to enter the healthcare system and when they do enter, women are often sicker than male counterparts reporting more symptomology and reduced overall physical health (O'Neill & Morrow, 2000). Because women tend to live longer than men, the risk of chronic illness and functional decline is more pronounced in older women (Jenkinson & Cantrell, 2016).

Minority women have also been shown to report higher levels of negative chronic illness activity and higher levels of multiple chronic conditions (Ward & Schiller, 2013). Increased illness proclivity in minority women results in lower HRQL that is exacerbated by concurrent psychological and social stress, discrimination, and reduced access to health-related resources (Yette & Ahern, 2018).

The complexities of managing a chronic illness in conjunction with the rigors of normal daily life is exacerbated by illness symptomology and complex treatment regiments. As a result, women with chronic illness often report concomitant psychological diagnoses such as depression and anxiety (Farr et al., 2011). Furthermore, mental health symptoms can be negatively impacted by feelings of isolation, alienation, and powerlessness in relation to chronic illness activity or from the stress of interacting with a healthcare system (Kralik, 2002).

Finally, familial reactions to chronic illness have the capacity to negatively impact a female with chronic illnesses. For example, negative emotional processes within the family system, as well as the stress on the family from managing a chronic illness can negatively impact the chronically ill individual and their disease progression over time (Rosland, Heisler & Piette, 2011).

Chronic Illness and Psychosocial Functioning in Women with CSA

Although as noted above, chronic illness in women is stressful and made more complicated by psychological and familial stress, women with a history of CSA are at the greatest disadvantage. As these women are more likely to develop a chronic illness later in adulthood (Irish, Kobayashi, & Delahanty, 2009). These women also have a higher propensity for significant mental health conditions and poor social relationships (Springer, Sheridan, Kuo, & Carnes, 2007; Trask, Walsh, & DiLillo, 2011; MacIntosh and Johnson, 2008). And therefore when all four issues are present (chronic illness, CSA, mental health and socio-relational stress) the outcomes are dismal.

CSA women are 1.63 times more likely to suffer from a chronic illness (Wilson, 2009: Golding, 1999). For these CSA women, the chronic illness experience tends to be less hopeful. These women often have exacerbated illness activity which results in disproportionally negative biopsychosocial outcomes and reduced HRQL (Springer, Sheridan, Kuo, & Carnes, 2003; Felitti et al., 1991; Wegman & Stetler, 2009; McCarthy-

Jones & McCarthy-Jones, 2008). It is thought that the long term and acute stress from CSA experience is manifest in the women's body, overtime resulting in physical health implications such as cancers, liver disease, gastrointestinal disorders, gynecological pain, chronic pain, cardiopulmonary disease, hypertension, cardiovascular disease, and obesity (Felitti et al., 1998; Irish, Kobayashi, & Delahanty, 2010 Hosang et al., 2013; Goodwin & Stein, 2004). Furthermore, CSA has also been shown to increase somatic sequelae through higher prevalence of fibromyalgia, irritable bowel syndrome, chronic fatigue syndrome, migraines, and chronic pain syndrome (Finestone et al., 2000; Irish, Kobayashi, & Delahanty, 2010).

As a result of poor physical and psychological health outcomes from these complex situations, these women have more interactions with the healthcare system (e.g. more frequent hospital visits, doctor's visits, and surgeries) than non-abused counterparts (Felitti et al., 1991; Hulme, 2000; Finestone et al., 2000). These interactions increase the overall burden of illness on the individual and their family system through greater daily life limitations, financial and work life burdens.

Overtime these CSA survivors can experience comorbid, long-term mental health diagnoses that impede functioning and aggravate illness symptomology. Women survivors of CSA often develop mental health diagnoses that include: major depressive disorder, general anxiety disorder, substance abuse disorder, and post-traumatic stress disorder (Springer, Sheridan, Kuo, & Carnes, 2007; Crozier et al., 2011; Fergusson, Boden, & Horwood, 2008). For example, CSA seems to increase the frequency and experiences of guilt and shame, isolation, maladaptive sexual encounters in CSA women (Feerick & Snow, 2005). Furthermore, CSA has been linked to exacerbated levels of suicidal ideation, suicide attempts, and completed suicides (Paolucci, Genuis, & Violato, 2001; McCarthy-Jones & McCarthy-Jones, 2008).

Of equal importance to biological and psychological implications of CSA are the negative socio-relational outcomes experienced by women survivors of CSA. CSA survivors report a higher prevalence of divorce and remarriage, reduced partner support, increased levels of domestic violence, partner emotional unavailability, partner alcoholism, sexual dysfunction, and poor overall relational outcomes (Felitti et al., 1991; Nelson & Wampler, 2000; MacIntosh & Johnson, 2008; Dube et al., 2015; Nelson et al., 2002).

Treatment Options for Women with Chronic Illness

Due to the high level of stress in this population, it would seem important to develop interventions that could help these women and their family systems. There are currently very few intervention that exist for this population, especially when we consider the interdependent complexity of the experienced physical, psychological, and socio-relational stressors. Presently, Dialectical Behavioral Therapy, Cognitive Behavioral Therapy and Emotionally Focused Therapy for Couples offer some promise in address the psycho-social components of CSA (Hall & King, 1997; Steil et al., 2011; Putnam, 2003; MacIntosh & Johnson, 2008). However, none of these interventions have been tested to treat the full ecological complexity of this population. They, at best, focus on the physical, or psychological stress, but not both, nor do these interventions include the family as well as the physical and psychological stressors. Therefore as Jenkinson and Cantrell (2008) plead: “Health professionals need evidence-based interventions to improve clinical care protocols to help women with chronic illness to change detrimental behaviors, identify needs, and enhance quality of life" (p. 101).

To this end, promising interventions should be rooted in ecological theory (Kazak & Nachman, 1991). Ecological theory identifies an individual with illness as participating in an interdependent network of social and physical environments that aid in the creation of illness related experiences and meanings (Stokols, 1996). Using this framework, studies have shown positive results in the treatment of chronic illness and comorbid psychosocial issues through application of an ecological lens that supports family system involvement (Ellis et al., 2005; Distelberg et al., 2014; Wysocki et al., 2007; Ellis et al., 2012).

These interventions have demonstrated an increase in treatment adherence and a decrease in psychosocial stressors, illness activity and illness-related family conflict (Distelberg et al., 2014; Wysocki et al., 2007; Ellis et al., 2012). Using an integrative ecological approach, researchers have been able to reduce multi-dimensional stress surrounding the chronic illness, ultimately leading to improved HRQL (Distelberg et al., 2016; Ellis et al., 2005). These approaches have sustainable treatment outcomes with increased cost effectiveness (Distelberg, et al., 2016: Eccleston, Palermo, Fisher, & Law, 2012; Ellis et al., 2012; Crane & Christenson, 2014).

MEND (Tapanes, Distelberg, Williams-Reade, & Montgomery, 2015; Distelberg et al., 2014; Distelberg et al., 2016) is a psychosocial, family-based intervention grounded in the tenants of ecological theory. MEND is designed to treat individuals and families through the integration of macro and micro theories that function in tandem. MEND therapists target "maladaptive stress and coping patterns" that prevent healthy adjustment to disease regiments (Distelberg et al., 2014, p. 196). Systemic theories inherent in the MEND model include ecological theory, biopsychosocial theory, biobehavioral theory, and neuroception theory. Each of these theories are woven into the MEND model to address the needs of medical complexity and comorbid psychological issues.

MEND is designed to bring greater functioning to individuals and families dealing with chronic illness. Functioning within an intensive outpatient setting, MEND addresses biopsychosocial stressors that arise through chronic illness by increasing treatment adherence, and reducing individual and systemic stress. Typical MEND adult patients struggle with chronic illness and comorbid psychological illness (e.g.: major depressive disorder, generalized anxiety disorder, and PTSD). MEND patients also experience relational, financial, and occupational distress that inhibits physical, emotional, and social functioning, increase stress and exacerbates disease activity.

MEND utilizes a multidisciplinary approach that integrates family therapists, psychologists, psychiatrists, researchers, and students. The MEND model is a systemic intervention designed to improve the quality of life for chronically ill children, adolescents, and adults (Tapanes, 2015). MEND treatment is carried out over a 21 session/7-week intensive outpatient program. Treatment sessions are 3 hours in duration and consist of group check-in, individual interventions, and multifamily group. Each of the MEND treatment sessions is facilitated in a group setting operating as a bidirectional process that provides patients and their families with strength, hope, and experience.

Because of the specialized treatment needs of women with chronic illness and the complexity interdependent ecological stress associated with CSA, the MEND intervention was chosen for this study.

Methods

This study was conducted in a natural clinical setting, utilizing the MEND adult intensive outpatient program. MEND patients were referred by specialty physicians, general practitioners, mental health providers, or by word of mouth. The MEND program included: intake, group therapy, multifamily therapy, and discharge. Therapy was performed by trained MEND therapists and overseen by the creators of the MEND model. Retrospective longitudinal data from the WHOQOL-BREF was captured at two distinct time points. Admission (Timepoint 1) and discharge (timepoint 2) data were collected on the first and last day of treatment. Total scores from the WHOQOL-BREF pre to post treatment were used to assess changes in HRQL.

Population

MEND adult patients typically struggle with at least one chronic illness, and comorbid psychological and socio-relational issues. MEND patients experience biopsychosocial stress as the result of chronic illness. Some MEND patients experience biopsychosocial stress as the result of childhood trauma (including CSA) (Simonton et al., 2019). For these patients, prolonged stress from CSA is manifest in a number of physio-psycho pathologies and socio-relational issues. Stress is exacerbated by the continuous reenactment of dysfunction patterns that originated within the victim's multidimensionally unstable family of origin. These patterns often include domestic violence, bullying, substance abuse, and poor attachments within intimate partner relationships. The result is a disproportionate level of biopsychosocial illness activity that decreases functioning across all domains of health

For the CSA and non-CSA patients MEND utilizes a multidisciplinary treatment approach that integrates professionals from marriage and family therapy, nursing, and psychiatry. MEND is performed through a combination of partial hospitalization and intensive outpatient programs. The partial hospitalization program (PHP) provides medical and psychological stabilization for patients who do not meet criteria for hospitalization but who are experiencing an acute level of biopsycho symptomology that necessitates daily monitoring by the MEND team. The partial hospitalization program provides treatment Monday through Friday for five hours daily. The MEND Intensive Outpatient Program (IOP) is designed to treat individuals who often present with at least one chronic illness, and comorbid mental and socio-relational issues. This level of care is structured for patients who are deemed medically and psychologically stable however, their care is monitored by the MEND psychiatrist who provides medication management and the MEND nurse who monitors patient vital signs and overall health. The MEND IOP program operates three days per week for three hours per day.

Patients are assessed prior to intake by the MEND treatment team to determine the appropriate level of care (PHP or IOP). Treatment is performed in conjunction with and under the direct supervision of MEND creators to ensure application of the intervention is consistent with model fidelity and prior publications (Distelberg et al., 2014; Tapanes et al., 2015; Distelberg et al., 2016).

Data Collection

Retrospective data was accessed for MEND patients meeting the inclusion criteria. For this study patient records were included if the patient was female, over the age of 18 years, and had at least one chronic illness and a comorbid mental health diagnosis (stated below). This program data contained the WHOQOL-BREF data as well as the demographic and CSA variables. All data was collected under the approval of the Loma Linda University institutional review board.

Sample

This sample criteria resulted in a sample of 105 patient records. The sample is representative of a diverse make-up of physical and mental health illness activity (see Table 1 below). Patients ranged in age from 18 - 75 years. The mean age at time of treatment was 46 years. Ten patients were African American, 5 were Asian, 20 were Hispanic, and 70 were White. CSA was reported by 50 patients (47.62%) (non-CSA n = 55 or 52.38%).

Table 1

Characteristic of Patient Participants (N = 105)

Ethnicity, *N (%)*		
African American	10	(9.52)
Asian	5	(4.76)
Hispanic	20	(19.05)
White	70	(67.62)
CSA, *N (%)*		
CSA	50	(47.62)
No CSA	55	(52.38)
CSA by Ethnicity, *N (%)*		
African American	7	(14.00)
Asian	0	(0)
Hispanic	6	(12.00)
White	37	(72.00)
Age, *M (SD)*	46.83	(13.67)
Treatment Days, *M (SD)*	28.15	(11.96)

Measures

The WHOQOL-BREF is an abbreviated 26 item assessment developed as a shortened version of the WHOQOL-100. One question from each of the 24 areas of the WHOQOL-100 were included in the brief version to ensure the abbreviated measure remained a robust version of the original WHOQOL (WHO, 1996). The measure moves beyond amelioration of disease activity to include broader aspects of life impacted by health (Skevington, Lofty & O'Connell, 2004). The WHOQOL-BREF assesses four quality of life related domains including physical, psychological, social, and environmental; total and overall scores are also included. Questions are representative of the WHO's perspective on quality of life as a broader construct experienced by an individual within the culture in which they are nested (Skevington, Lofty & O'Connell, 2003). Manual scoring is a two-phase process that converts raw scores to a 4-20 scale and then to a 0-100 scale (WHO, 1996). Reliability and validity are acceptable for each scale (a >.7) (Skevington, Lofty & O'Connell, 2003). The measure was administered on the first and last day of treatment as a part of normal intake and discharge treatment protocols.

Categorical variables (e.g.: CSA versus no CSA, and ethnicity) were also incorporated into the study design in conjunction with continuous variables (e.g.: number of treatment days and age). As previously noted, these variables were maintained in patient medical records.

CSA endorsement (yes or no) was obtained by the research assistant through a review of the medical record via documentation provided at intake through completion of a psychosocial assessment. The psychosocial assessment asks the patient if they have a history of CSA. The patient response is captured by the MEND nurse and entered into the psychosocial assessment as a part of the patient's medical history. For the purpose of this study, the patient response was retrieved from the psychosocial assessment and entered manually into the study dataset (1 = yes or 0 = no).

Ethnicity was obtained by the research assistant through a review of the medical record. Once ethnicity was determined it was entered into the dataset through a series of numerical variables (1 = African American, 2 = Hispanic, 3 = White, 4 = Asian, 5 = Other). These categorical variables were later recoded through the data analysis process (0 = Non-White and 1 = White).

Number of treatment days was obtained through a review of the medical record by this author and the research assistant. Using the chart review function, the total number of appointments contained within the MEND Services Department were reviewed for attendance and then summarized. The resulting number of treatment days was entered into the dataset as a scale variable.

Age (at the time of MEND treatment) was obtained by the research assistant from the individual patient medical record and entered into the dataset as a scale variable.

Data Analysis

All data were extracted from the electronic medical record and entered into an SPSS 25.0 database (IBM, 2017). The data was checked for missing data and the ability of the data to support the assumptions of linear regression. First there was missing data at time point two for the outcome variable (10.43%). To address the issue of missing data, a Chi-Square test of independence was performed. The Chi-Square evaluations showed no significant associations between the condition of missing data and any of the demographic variables suggesting that missing data was missing at random. The data were then evaluated to assure that it supported the regression assumptions as outlined by Tabachnick and Fidell (2007).

To examine the study hypothesis, a multiple linear regression model was estimated using the WHOQOL-BREF total score as the outcome variable. Age, treatment days, Time point, ethnicity, and CSA/non-CSA were first estimated as main effects, then as interaction effects with the time variable to assess the variable's impact on the rate of change reported in the program.

Results

The total model had a good fit to the data ($F_{(9,153)} = 15.244$, $p < .001$ | $R^2 = .473$). (See Table 2 for model fit and parameter estimates). There were two significant main effects, the remaining three main effect variables were not significant predictors of HRQL. Overall all patients showed a positive increase in HRQL between the pre and post. Specifically, the post program WHOQOL scores were 32.74 (se = 4.15, $p < 0.001$) points higher at discharge. Therefore, when controlling for all of the other effects in the model the MEND program provided a significant increase in HRQL. In addition, non-minority patients showed a higher main effect HRQL (B = 19.58, se = 6.00, $p < 0.001$). Age, number of TX days and CSA did not have a significant main effect. In addition, none of the interaction variable were estimated to significantly predict the change in HRQL.

Table 2

Results of the Multiple Regression Analysis (n = 105)

	β	*SE*	*t*	*P*
Intercept	77.877	6.342	12.279	.000
Age	-.079	.096	-.827	.410
Treatment Days	-.029	.109	-.267	.790
White	19.579	6.000	-3.263	.001
Time Point	32.735	4.151	-7.886	.000
CSA	-2.943	4.552	-.647	.519
White Time Point	-12.533	7.739	1.620	.107
White CSA	-7.927	7.835	1.012	.313
Time Point CSA	-7.536	5.949	1.267	.207
White Time Point CSA	6.815	10.296	-.662	.509

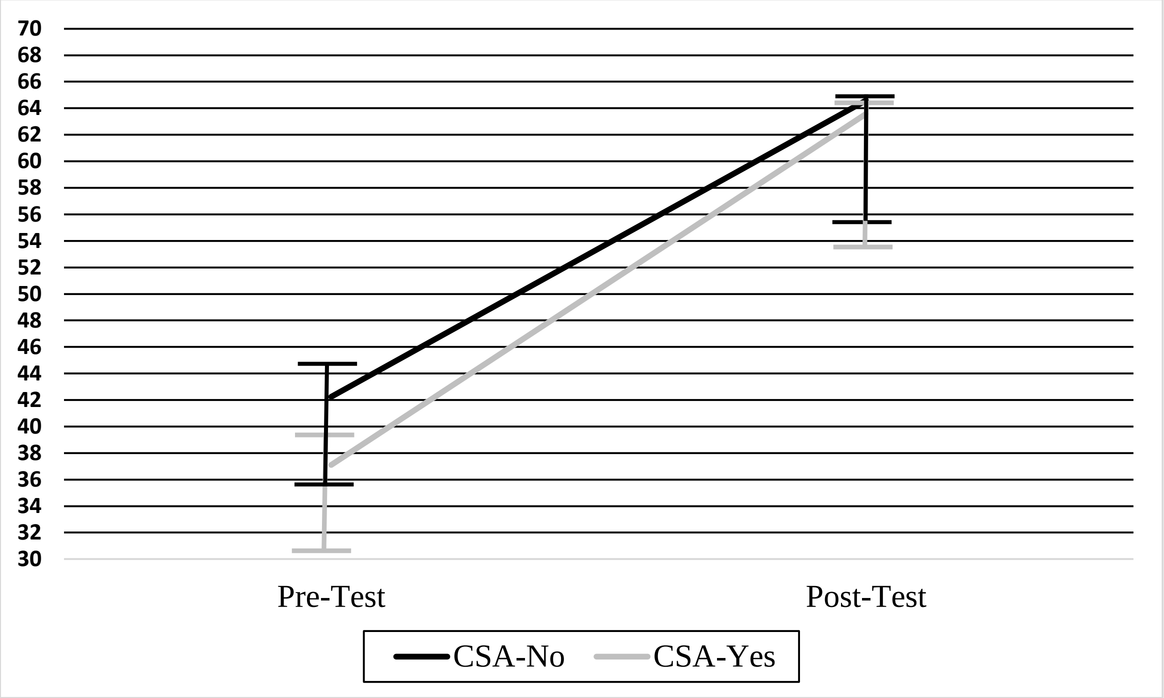

Figure 1 – Estimated Marginal Means

Therefore, the program had a beneficial and positive effect on HRQL for all female MEND patients. White patients also demonstrated a significantly higher HRQL overall, but did not have significantly different HRQL benefit overtime in the program. Important to note for this study, the CSA patients did not exhibit a significantly different HRQL at pre or post. Rather they experienced the same benefits as the non-CSA patients.

Discussion

As noted, The total model was a good fit to the data ($F_{(9,153)} = 15.244, p < .001 \mid R^2 = .473$) and overall, patients showed a positive increase in HRQL pre to post MEND treatment of 32.74 (se = 4.15, $p < 0.001$). The change in pre to post WHOQOL total score demonstrates a move from low to moderate functioning for women in both groups based on WHOQOL predetermined benchmarks (low = 0-60, moderate = 61-80, high = 81+).

The benefits of this finding are far-reaching as they demonstrate improvements for women with organic chronic illness as well as women with CSA related illness. The finding spoke to the ability of the MEND intervention to improve physical, psychological, social, and environmental domains of health at a consistent rate across both groups of women and across all ages and ethnicities. The authors originally hypothesized the MEND intervention would improve HRQL in women equally. This hypothesis was supported through the use of interactions in the regression model showed neither CSA, ethnicity, treatment days, nor age did not impact the pre to post rate of change.

Improved HRQL is a promising finding for women struggling with an organic chronic illness diagnoses. The breadth of the WHOQOL-BREF measure as an assessment of HRQL allows for improvements in multiple areas of functioning to be taken into consideration. As such, changes in biopsychosocial health are attainable through engagement in the MEND psychosocial-family based intervention.

This increase in HRQL is of equal promise for women with a history of CSA who are facing a host of negative biopsychosocial health consequences (Irish, Kobayashi, & Delahanty, 2010). The increase in HRQL demonstrates the capacity of the MEND intervention to address not only the psychosocial consequences of CSA but also the physical health implications therein. For physical and mental healthcare providers as well as CSA survivor women, these improvements in HRQL offer a pathway toward biopsychosocial healing in the face of childhood sexual trauma.

Limitations

While the study demonstrates promise for women with chronic illness, there are several limitations many of which are due to limitations in available patient data. The first of these data limitations relates to the absence of an independent variable that would have controlled for socio-economic status (SES). The absence of this variable results in an inability to test the MEND intervention's specific ability to improve HRQL in a financially diverse sample of women. The second data limitation was the absence of information in the medical record regarding the severity of CSA. In light of CSA literature, the authors recognize health-related correlations that exist between variations in CSA severity, frequency, and duration. Inclusion of CSA severity as an independent, categorical variable would have allowed for deductive analysis of the MEND intervention across variations of CSA.

An additional limitation of the study is the issue of missing data. Given the naturalist setting, missing data was expected however, it does present as an issue within analysis of the data and generalizability of the results. The model demonstrated a good fit but that is not to imply that outcomes may have been different with either a greater sample size or a reduction in missing data.

Many areas for future work were uncovered through the study. The first of which would address the issues noted above regarding data limitations. Future studies would benefit from a robust level of data collection that considered not only age, treatment days, and ethnicity but also SES, and severity of abuse. Furthermore, a future study would benefit from a biometric measure of stress that could assess stress levels pre to post treatment and subsequently demonstrate the physical changes that result because of participation in the MEND intervention.

Conclusion

In conclusion, this study brings hope to women who manage chronic illness as a part of their lived experience. This is particularly salient for women who have experienced reduced biopsychosocial functioning and poor HRQL as a result of sexual abuse in childhood. For these women, the study provides an opportunity for wholeness and restoration of mind and body that comes after years of enduring the pain of child abuse. The study also illuminates the benefits of an ecologically based psychosocial intervention that emphasizes the healing benefits of systems theory.

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CHAPTER 7

CONCLUSION

Global Process

This study examined the ability of a psycho-social, family-based intervention to improve health related quality of life in women who struggle with the biopsychosocial consequences of CSA. The study was framed around two specific aims. Specific Aim 1 hypothesized that the MEND intervention would demonstrate an increase in HRQOL in women with CSA who reported at least one chronic illness and comorbid mental health and socio-relational issues. To test this hypothesis, the authors used a multiple case study analysis. Specific Aim 2 hypothesized that the MEND intervention would improve HRQOL equally in female patients with/without CSA who reported at least one chronic illness and a comorbid mental health issue. Specific Aim 2 utilized a multiple linear regression analysis to test the hypothesis. The two specific aims were studied independently and captured in two publishable papers. The overall findings, implications and limitations are summarized below.

Findings

Paper 1

The original hypothesis of Specific Aim 1 was tested inductively through the case study methodology. The results of this work revealed the ability of the MEND intervention to improve HRQOL in 12 women with a history of severe CSA. In addition to the overall hypothesis, this study resulted in several important findings. These findings were demonstrated across biopsychosocial domains of health.

Paper 1 allowed for a detailed exploration of the implications of CSA on biopsychosocial health. This finding was demonstrated through the patient's level of biopsychosocial illness acuity. The authors found, patients reported concomitant illness activity that resulted in functional declines across all domains of health. Physical illnesses often included pain, migraines, seizures, autoimmune disorders, and myalgia. Psychological diagnoses included MDD, PTSD, GAD, BPD, or psychosis. It would appear biopsycho illness activity became a manifestation of the internalized stress of long term, severe CSA. This finding demonstrated a transition in symptomology from childhood to adulthood. The authors found that in childhood SI and dissociation were the first recognized symptoms of CSA. By adulthood symptomology took the form of physical and somatic illness sequelae coupled with psychological diagnoses that captured the full extent of CSA related trauma.

Paper 1 also demonstrated several significant systemic findings beginning with the patient family of origin and extending to present day family constellations. To capture the full extent of familial distress (including traumatization, victimization, and revictimization), the authors defined the term "multidimensionally unstable families." This term was used to encapsulate the complexity of ecologically layered dysfunction and concurrent abuses present within the patient's family of origin. For patients, being raised in a multidimensionally unstable family had many unfortunate consequences that included: repeated exposure to CSA (both intrafamilial and external), as well as concurrent physical, emotional abuse and neglect.

Furthermore, the authors found multidimensionally unstable families engaged in victim blaming, silencing, and denial. The familial response to CSA resulted in retraumatization as patient narratives were often used against them. This reaction or non-reaction to CSA reduced resiliency and engendered feelings of guilt, shame, and disempowerment. Unfortunately, these familial patterns spiraled into adulthood as patients who concurrently reported bullying went on to engage in relationships with imbalances of power that favored the romantic partner and suppressed the needs of the patient. To that end, patients who experienced a disproportionate amount of pain in childhood continued to experience the same or greater levels of pain in adulthood through patterns of re-traumatization, re-victimization and subsequently negative biopsychosocial outcomes.

The study found that some of the negative consequences of CSA were mediated by spirituality. Patients who had a personal faith in God reported reduced suicidality. Patients who reported both a personal relationship with God and involvement in a spiritual community reported higher HRQOL scores at intake, healthier familial relationships, and increased HRQOL scores at discharge than counterparts.

While paper 1 demonstrated many negative consequences of CSA, there were also many promising findings that highlighted the benefits of a family therapy intervention. The study found all 12 patients were able to experience substantial increases HRQOL through participation in the MEND intervention, however outcomes were varied based on familial involvement in treatment. The authors found patients with systemic support as demonstrated through participation in multifamily group, and couple and family sessions, outpaced patients without systemic support. This finding demonstrates the importance of familial inclusion in the healing process of CSA survivors. First, familial inclusion allowed the patient to share their trauma story with a supportive family member. Second familial inclusion allowed for an amelioration of dysfunctional family of origin patterns and an increase in healthy and supportive relationships. Third, application of a systemic intervention allowed for inclusion of the patient's children. This allowed for healing of the patient's children and a possible reduction in trans-generational familial patterns.

Paper 2

The original hypothesis of specific aim 2 was to examine the ability of the MEND intervention to improve HRQOL in a sample of women struggling with chronic illness and comorbid mental health issues with and without CSA equally. Using a multiple regression analysis, the study found that when controlling for age, ethnicity, treatment days, and CSA, patients experienced a statistically significant improvement in HRQOL. Therefore, the MEND intervention had a positive effect for all patients. This was a promising finding for women with organic chronic illness and women with CSA-related illness alike. The study relied on the WHOQOL-BREF total score as a measure of HRQOL. Therefore, patients demonstrated improvements across four domains of health that included: physical, psychological, social, and environmental. These findings provide a gateway for better health through a systemic intervention that considers the importance of familial inclusion in the healing process.

Implications

This study provides implications for healthcare provides, mental healthcare providers, and the larger community of marriage and family therapists. The study speaks to the importance of recognizing the far-reaching consequences of CSA. For healthcare providers, a greater knowledge of the biopsychosocial implications of CSA can enhance patient care through increased recognition of illness acuity and symptomology present in women with a history of CSA. In addition, the authors encourage healthcare providers to ask questions that relate to a patient's trauma history when working with women who present with illness patterns reminiscent of CSA. This information can aid in formulation of a treatment plan and the appropriate allocation of referrals based on the needs of the patient.

Study implications also extend to mental health providers. The study demonstrates the complexities of treating patients whom exhibit extensive biopsychosocial consequences of CSA. The authors found that patients with severe CSA and/or acute biopsychosocial illness activity benefited from a higher level of care that utilized a multidisciplinary team capable of managing complex treatment regiments and sensitive illness activity. Because MEND utilizes a psychiatrist, and a nurse in conjunction with treating therapists, chronic illness activity was monitored as the therapeutic intervention unfolded to ensure patient health was stable over the course of treatment. For example, dangerous levels of hypertension were present in various case study patients. In these cases, the MEND medical team was able to monitor blood pressure and heart rate to ensure the patient was medically sound. The same type of scenario would apply with seizure patients, or diabetic patients. Therefore, an understanding of when to refer to a higher level of care such as a partial hospitalization program or intensive outpatient program for medically fragile patients is an important nuance of treating CSA survivor patients who are medically complex.

For the larger marriage and family therapy community this study provides optimistic findings related to the systemic treatment of women with a history of CSA through application of a psychosocial, family-based intervention that embraces the tenants of ecology theory. This study moves the field forward through inclusion of these systemic underpinnings in the biopsychosocial treatment of women with CSA and their families. Interventions have demonstrated a positive impact on psychosocial health, but they have not yet considered the implications of chronic illness in the lives of survivor women. This study highlights the debilitating implications of CSA on physical health as another form of disempowerment, reduced functioning, and trauma. Therefore, it is imperative that treatment options for CSA survivors begin to address the health-related consequences therein.

In addition, this study demonstrates the healing capacity of the family system and encourages familial involvement in the treatment plan of women with CSA. The benefits of active familial participation were articulated in paper 1 as women who participated actively with familial support received the full benefit of treatment. Therefore, the authors of this study encourage marriage and family therapists to actively engage romantic partners, children, siblings, and when necessary friends to share in the cathartic benefits of family therapy. Such involvement has the capacity to reduce the stigma of CSA within families and subsequently reduce feelings of disempowerment, guilt, and shame in the lives of CSA survivor women.

Limitations

While there were many strengths of this study there were also many limitations. The first of these limitations was due to data collection. Often there were additional variables that would have been useful in analysis that were not available. For example, paper 1 would have benefited from a viable biometric stress measure to assess stress levels at intake, over the course of treatment and at discharge. White the authors tried to obtain such a measure from the medical record, no such data proved to be a viable measure. An additional limitation of paper 1 is the absence of males from the study. Inclusion of men in the study of CSA would provide useful in making a thorough assessment of a systemic treatment in the ability to improve HRQOL of CSA survivors.

Additionally, a current limitation and a focus for future work would be the inclusion of medication related data in the case study analysis. Due to the ebb and flow of medications necessary to support patient health in a medically fragile population, the inclusion of a medication analysis fell outside the scope of this study. This is not to underscore the importance of medication management which will be further explored in a subsequent study.

There were also data limitations in paper 2. These limitations were again due to constraints of retrospective data collection. The absence of a viable measure of socioeconomic status is a limitation of the study as inclusion of this variable would have added a layer of robustness to the study that could have provided additional information regarding the ability of the MEND intervention to treat an economically diverse population. Additionally, a variable to assess CSA severity would have provided a wealth of information regarding HRQOL at intake and at discharge as well as the rate of change related to the level of abuse severity. An additional limitation of paper 2 was due to missing data. Because of the natural clinical setting and the unpredictability of patient attrition, data timepoint 2 was missing in certain patients. The result was a smaller sample size at time point 2.

Conclusion

This study analyzed the ability of the MEND intervention to improve health related quality of life in women with childhood sexual abuse, chronic illness, and mental and socio-relational issues. A case study analysis and a multiple linear regression analysis found the intervention improved biopsychosocial functioning and health related quality of life equally well for women with a history of CSA and those without.

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