

Case report

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Attachment-Based Treatment of Chronic Medical Disorders: Learning from Stress-Based Mental Health Conditions

Martin Fields^{1*} MD

¹University of Illinois, Rockford Campus, 1437 S. Bell School Road, Suite 6, Rockford, Illinois 61108

***Corresponding author**

Martin Fields, University of Illinois, Rockford Campus, 1437 S. Bell School Road, Suite 6, Rockford, Illinois 61108

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Abstract

Adaptation to stressful conditions has been considered as a cause of chronic medical disorders for many years. However, the failure of adaptation involved in the genesis of these disorders has never been connected to mental health conditions that have the same adaptation failures to stress. A failure in the type of attachment in which parents help their children adapt to fearful conditions, which involves the hippocampus and amygdala regions in the brain, might be an underlying cause for both chronic medical disorders and mental health conditions. This paper will provide evidence for the underlying continuity of these conditions, as they relate to a similar type of attachment failure, as it impedes successful adaptation to stress. To demonstrate this continuity, case material is provided on patients with both conditions who are given model treatments that resolve each sequentially, indicating that they have a common attachment-based root. The importance of treating patients' attachment-based deficits for both their medical and mental health issues concurrently supports using alternative, holistic medical strategies and attachment-based psychotherapy, in which the therapist can experience the fear of the patient and then advocate for them to help them resolve their problems for both types of conditions. The importance of using these therapies in treating chronic medical and mental health conditions is strongly supported by this evidence. These interventions are not adjunctive to the medical treatments but are as primary as the medical interventions in developing more pervasive resolution of the conditions.

Keywords: Attachment, Chronic Medical Disorders, PTSD, Dissociation Disorders

Introduction

Chronic illness has increased at an alarming rate in the United States. It now affects more than 40% of the population and accounts for 83% of healthcare spending. As illustrated in Figure 1, this rise is expected to continue [1].

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Making matters exponentially worse, more people live with not just one chronic illness such as diabetes, heart disease, or depression, but with two or more. As of 2014, 42% of people suffering from a chronic illness had more than one condition, and 12% had five or more [2].

According to the Milken Institute (Waters, 2016), the total costs in the U.S. for direct healthcare treatment for chronic health conditions totaled \$1.1 trillion in 2016—equivalent to nearly 6% of the nation's GDP. When indirect costs, such as the loss of productivity, are added, the costs rise to \$3.7 trillion, a staggering one-fifth of the U.S. economy.

However, the quality of U.S. health services has not kept pace with this rise in costs. Putting aside questions about the efficiency of the U.S. healthcare delivery system, a major reason for this increase

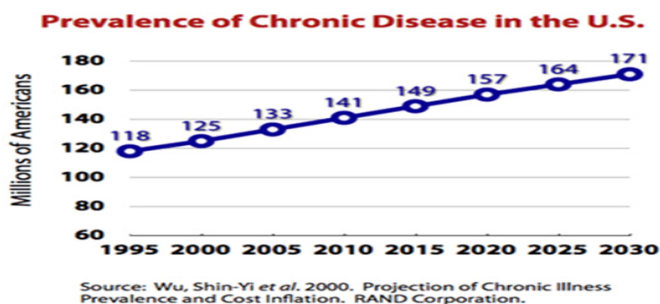


Figure 1: Prevalence of Chronic Diseases in the U.S. Source:

in costs and decrease in quality of care is the rising incidence of chronic disease. Figures 2 and 3 compare the leading causes of death from 1900 to 2017:

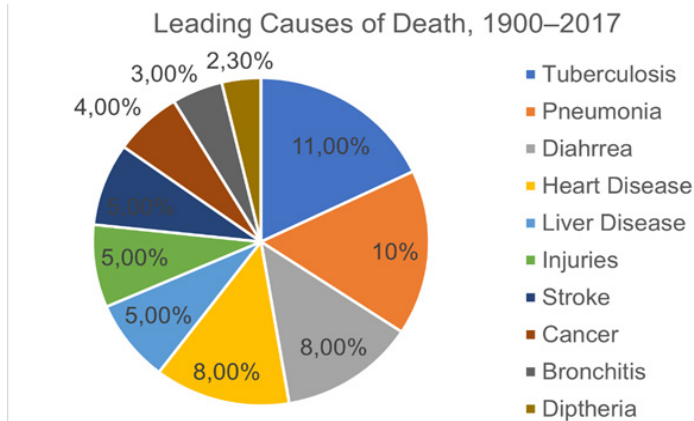


Figure 2: Leading Causes of Death, 1900–2017. Source: www.mpkb.org

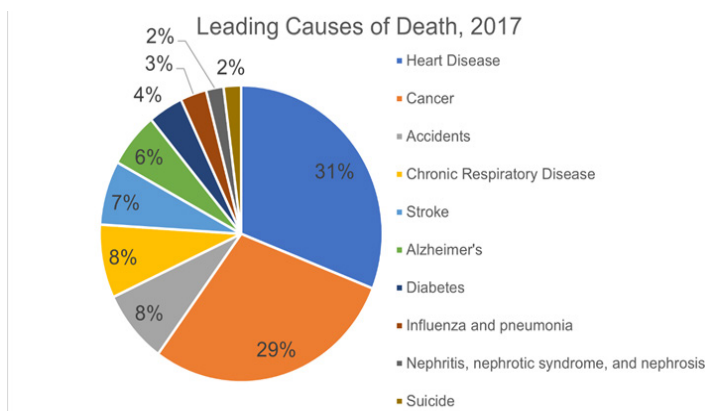


Figure 3: Leading causes of death, 2017. Source: www.cdc.gov

Along with the dramatic increases in chronic disease, there has also been a marked shift from acute or infectious disease to chronic disease as a leading cause of death.

Despite the large amount of money spent on healthcare in the U.S., it now has the lowest life expectancy at birth of any developed nation, and overall life expectancy has also been declining. One contributing factor is a medical system focused on the technological aspects of healthcare, which may not involve the underlying causes of chronic conditions. This paper presents a consideration that the underlying potential of chronic medical conditions may have a similar attachment-based vulnerability that may need to be remediated for the resolution of these chronic medical conditions, similar to the remediation used for the resolution of mental health conditions to which they are associated. The major deficit in the literature that this article addresses is the strong connectivity in the genesis of stress-related adaptation failures in the formation of chronic medical and mental health disorders and how to form treatments which work for both at the same time. The literature to date is too one-sided, considering the genesis of chronic medical and mental health disorders as too separate from one another, and the treatments for each are too divided as well. This article pro-

vides evidence of how a more integrative approach to each type can promote a more complete resolution of each type.

Literature Review

There is growing evidence that the capacity to adapt to increasingly stressful societies and longer lives may be contributing to the genesis of these chronic disorders [4]. Selye (1946, 1976) developed a general adaptation theory to explain how stress, whether external or internal, influenced the body to develop diseases [5, 6]. For this work, he is regarded as a leader in stress research [7]. Selye divided the concept of adaptation into three phases: an alarm phase in which the stress system, especially the adrenal gland, is activated to respond to the stressor; the stage of resistance in which the organism mobilizes its defense system to maintain homeostasis; and the stage of exhaustion in which the organism can no longer resist and demonstrates symptoms of bodily failure. Selye (1946) also provided evidence on how this syndrome affects the genesis and perpetuation of chronic illnesses such as COPD, gastrointestinal ulcers, hypertension, diabetes mellitus, Addison's disease, and many others. He was responsible for introducing the concept that a syndrome that could explain chronic medical conditions in terms of a common factor—in this case, stress—was also involved in the genesis of psychiatric disorders [5].

However, adaptation to stress includes a brain-based process that is intricately connected to the bodily process. For example, McEwen (2001) demonstrated how stress is directly involved in the adaptation process in both the body and brain as part of the basis for chronic disease [8]. He explained how the hippocampal formation is involved in the adaptation process to chronic pain, which is present in many chronic diseases. According to McEwen (2001), adrenal steroids, secreted during stress reactions, can have a protective or a damaging effect on the hippocampus [8]. When they are protective, they improve neuronal plasticity and the adaptation of the body to pain and the opposite when they damage the hippocampus. When the steroids are too damaging, they can produce seizures and ischemia. Through this explanation, McEwen (2001) introduced the vitally important concept of hippocampal plasticity and its failure, which can cause chronic diseases [8].

McEwen (2001) also demonstrated that constructive responses to stress were useful for adaptation by stimulating neuronal plasticity and favorable immune responses, while failures can lead to immune diseases that threaten the organism. Therefore, bodily adaptation processes for stress affect the brain's responses to stress, leading to a more plastic flexible response than just a bodily response [8].

Others (for example, Swaab, Bao, and Lucassen, 2005) have demonstrated that stress generates an integrated brain bodily response that is involved in neuronal degeneration and depression, cardiovascular system diseases (Golbidi, Frisbee, and Laher, 2015), hypertension (Liu, Li, Li, and Khan, 2017), immune diseases (Diani, 2018), type 2 diabetes (Rutters et al., 2014), multiple sclerosis (Mohr, Hart, Julian, Cox, and Pelletier, 2004) and many other chronic diseases (Duric, Clayton, Leong, and Yuan, 2016) [9-15]. While chronic diseases are often separated from stress factors, there is evidence that failure to adapt to stress from a brain response integrated with a body response is the genesis of these

disorders [5-6, 8]. In short, similar to mental health conditions, a deficit in the capacity to adapt to stressors may play a larger role in the genesis of physical disorders than we currently understand.

As has been demonstrated for mental health conditions, attachment deficits may play a role in the genesis of these chronic medical conditions. For example, Maunder and Hunter (2001) proposed that under stressful conditions, the use of the attachment model can help patients understand and learn to adapt to their medical illnesses to manage their stresses [16]. They proposed that for many chronic illnesses, patients regress and require the support of an attachment figure to maintain recovery. Jimenez (2017) provided evidence of the importance of attachment between patients and physicians in chronic disease management. Schmidt, Nachtigall, Wuethrich-Martone, and Strauss (2002) demonstrated that patients who had a more secure attachment relationship adapted better to chronic disease [17, 18].

Regarding the genesis of chronic conditions, some investigators have proposed that attachment deficits may also be involved in the genesis, and not just the adaptation to a chronic illness. Meredith, Ownsworth, and Strong (2008) proposed a model regarding chronic pain conditions and provided evidence that insecure attachment might be involved in the ontogenesis and maintenance of chronic pain [19]. In a similar study, Coutinho, Queiroga, and Souza (2020) demonstrated that attachment style deficits might be a risk or protective factor in children with chronic diseases, and educating families on improved attachment to their children may facilitate treatment of the diseases [20]. Similar to mental health conditions, attachment may be a useful model for understanding how failure to adapt to stress may be involved in the genesis of chronic diseases.

However, attachment-based deficits may have a more profound impact on the genesis and rehabilitation of patients with chronic diseases than we currently realize. This might be due to the connection between attachment and its impact on epigenetic factors that may play a role in the unfolding of these diseases in later life.

Meanwhile, Weaver et al. (2004) illustrated that epigenetic programming of maternal care variations to stress in infancy affects stress responses later in life [21]. His work was primarily conducted on laboratory animals, but the same epigenetic findings have been demonstrated to be involved in many chronic diseases in humans. Other researchers (Francis, Diorio, Liu, and Meane, 1999; Zhang and Meaney, 2010) have illustrated that these variations in maternal care have been associated with corresponding variations in the oxytocin levels of mother rats, supporting the finding that attachment-based maternal care leads to epigenetic coding [22, 23]. Dupont, Armant, and Brenner (2017) argued that “An epigenetic change might result in a perceptible alteration later in life such as cancer, coronary heart disease, stroke, or diabetes [24]. Concerns have also been raised about the epigenetic status of tumor suppressors...” Based on the pioneering work of Meaney and colleagues, Spinelli (2017) suggested that “In the light of recent findings in the epigenetic field, it can be argued that the spectrum of behaviors described by Bowlby is the consequence of the epigenetic footprint provided by mother to the offspring [25].” Spinelli termed this epigenesis model a “promising new paradigm of medicine” as the maternal care variations of epigenesis could provide an under-

standing of the origins of chronic diseases.

Epigenesis has been linked to the pathogenesis of many chronic diseases, such as Parkinson’s disease (Pavlou and Outeiro, 2017; Feng, Jankovic, and Wu, 2015), Alzheimer’s disease (Marques and Outeiro, 2013; Kwok, 2010), type 1 Diabetes (Jerram, Dang, and Leslie, 2017), type 2 diabetes (Zullo Sommese, Nicoletti, Donatelli, Mancini, and Napoli, 2017), autoimmune diseases (Dang, Buzzetti, and Pozzilli, 2013), cardiovascular diseases (van der Harst and de Windt, 2017; Aslibekyan, Claas, and Arnett, 2015; Ahuja, Sharma, and Mohan, 2017), chronic pulmonary diseases (Zong, Ouyang, and Chen, 2015; gastrointestinal disorders (Zilbauer et al., 2016; Zilbauer and Kraiczy, 2017), seizure disorders (Kobow and Blümcke, 2018; Hauser, Henshall, and Lubin, 2018), headaches (Cámara, Martín Bujanda, and Mendioroz Iriarte, 2017; Alvaro-Gonzalez, 2016), and chronic pain disorders (Ciampi de Andrade et al., 2017; Liang, Lutz, Bekker, and Tao, 2015) [26-44]. The influence of epigenesis on the formation of chronic disease later in life indicates that early life attachment deficits may result in an epigenetic coding deficit making individuals more vulnerable to chronic medical conditions as part of the process of adaptation to that stressor.

As mental health conditions are also rooted in attachment deficits, they may have a common attachment disorder vulnerability as chronic disorders. Support for this hypothesis is evident in the existence of comorbidities between chronic disorders and mental health conditions. Each chronic disorder is connected primarily to one type of emotional disorder, and the evidence for this conclusion is considerable. Additionally, more severe chronic disorders lead to more extensively associated mental health conditions. In milder cases of chronic disorders, the associated mental health condition may not be present, but it is much more likely to be present in more severe chronic disorders.

With regard to types 1 and 2 diabetes and depression, cited the high likelihood that the cause for this connection is epigenetic [45]. In an epidemiological study of 90,686 participants, found that patients with diagnosed and undiagnosed depression had a significantly greater chance of having diabetes [46]. In a study conducted in the Netherlands, patients with depression had increased odds of developing diabetes [47]. Likewise, Whitworth et al. (2017) studied depression in people with diabetes type 2, followed them for five years, and found three trajectories of depression in patients over five years: low symptoms (85.2%), gradually worsening symptoms that began to improve (7.3%), and gradually worsening symptoms (7.5%) [48]. Persistent depression was associated with consistently higher BMI over time, which supported the finding that worsening diabetes is linked to worsening depression.

In a meta-analysis of anxiety in irritable bowel disease, found that the risk of developing irritable bowel syndrome (IBS) doubled for patients with anxiety at a baseline compared to patients without this mental health disorder [49]. In a meta-analysis of IBS, demonstrated that patients with severe constipation or persistent diarrhea, which presumably were the most severe cases, were associated with higher anxiety levels (and depression) [50]. Anxiety is also associated with the incidence of cardiovascular disease, and Tully, Harrison, Cheung, and Cosh (2016) outline this correlation and demonstrate that the more severe the cardiovascular disease, the

more likely it is associated with anxiety [51]. Thurston, Rewak, and Kubzansky (2013) found that significant anxiety can be a prodrome for the onset of cardiovascular disease [52]. Anxiety is also prevalent in patients with chronic obstructive pulmonary disease, and Brenes (2003) found that anxiety disorders, especially generalized anxiety and panic disorder, occur at a higher rate in patients with COPD than in the general population [53]. They also found that anxiety in these COPD patients had a significant negative impact on their quality of life. Therefore, just as in the other disorders, the presence of anxiety in those patients was a signpost of a worse chronic medical disorder.

A predominant connection between autoimmune disorders and post-traumatic stress disorder (PTSD) has also been demonstrated. O'Donovan et al. (2015) found that Iraq war veterans with PTSD had a significantly elevated risk of an autoimmune disorder compared to those with no PTSD diagnosis [54]. Lee et al. (2016) noted a similar finding in a cohort of nurses using a screen for PTSD symptoms and found a significantly higher incidence of rheumatoid arthritis (RA) in those who had PTSD [55]. Roberts et al. (2017) also found a significant association of trauma, PTSD, and incident systemic lupus erythematosus (SLE) in a longitudinal cohort of women [56]. The connection between PTSD and other chronic disorders is also well documented. For example, Engdahl et al. (2010) noted a close association between PTSD and temporal lobe epilepsy [57]. Friedman et al. (2017) examined 2922 pregnant women, including 33.5% with migraines and, of those with migraines, 37.5% for PTSD [58]. Arcaya, Lowe, Asad, Subramanian, Waters, and Rhodes (2017) documented the association of PTSD and migraine headaches symptoms after a natural disaster [59]. According to Smitherman and Kolivas (2013), experiencing trauma was not associated with migraines, but PTSD demonstrated a strong association [60].

The correlation between pain disorders and addiction has also been well documented. Ngian, Guymer, and Littlejohn (2011) reported the high risk of opiate addiction in fibromyalgia patients, and Goldenberg, Clauw, Palmer, and Clair (2016) reported that, although there is a lack of efficacy of opioids with fibromyalgia, there is a high incidence of potential addiction [61, 62]. Pohl and Smith (2012) also reported that the occurrence of pain disorders and opiate addiction is common and cited considerable research supporting this contention [63]. This is a serious problem because opioids are commonly used to treat pain disorders. Consequently, Savage (2017) describes the frequency of the combination of chronic pain and opiate addiction as a major contributor to the opioid crisis in the U.S [64]. Sehgal, Manchikanti, and Smith (2012) described opioid abuse and chronic pain as co-occurring disorders that have generated a public health crisis [65].

Another series of co-occurring disorders are Alzheimer's disease, bipolar disorder, and schizophrenia. Drange et al. (2019) demonstrated this link and, further, Anderson (2019) found that bipolar disorder and schizophrenia are associated with a higher risk of dementia [66, 67]. Brown and Wolf (2018) documented the same co-occurrence and found that the odds of developing dementia among those with serious mental health conditions were significantly greater than in the general population [68].

Another potential link between chronic disorders and mental

health conditions is associated with having a common brain node connected with the genesis of each. One example of this would be chronic medical and mental health stress-related disorders linked to a common origin in the hippocampal/amygdala region, where adaptation to stress extends from the bodily adaptation process to a brain-related adaptation process [69, 70]. There is thus considerable evidence to indicate that not only does stress involve bodily adaptation, but the adaptation process also involves brain-based adaptation processes. These processes' failure may be involved in the genesis of chronic disorders and mental health conditions and their linkage through a specific type of attachment failure. This would make an individual vulnerable to stress-related adaptation failures later in life when chronic diseases emerge and worsen.

Although the literature strongly supports the possible connection between brain node deficits which can be connected to both the genesis of mental health and medical conditions, it has not shown how these connections relate to one another or how we can use this interrelationship to be more successful in treating both types of condition. Attachment failures have been shown as connected with the genesis of both types of condition but knowing how an attachment failure may cause both types of condition due to the same type of stressor would emphasize the common resolution potential for both. This paper presents evidence for the possibility that attachment failures, through their effect on epigenesis, affect the development of specific brain nodes which are involved in the management of stress later in life. The failure of adaptation to stress leads to both chronic medical and mental health conditions. I hope to show that by bolstering the attachment capacity of the patient, using attachment-based psychotherapy and alternative holistic medical interventions, both types of condition can be helped.

The Genesis of Medical Disorders and Mental Health Conditions Associated with the Hippocampal/Amygdala Junction

If chronic medical disorders and mental health conditions are comorbid and connected through an attachment deficit, what is the relationship between the different types, and how do they connect to the same attachment failure? One possible way to determine this is to view one particular type of attachment failure. In this case, the failure of attachment associated with the management of fear and stress and its relationship to the hippocampal/amygdala/prefrontal lobe brain circuit can be used to determine how they might interact to the management of stress in adulthood.

Dunkley et al. (2014) documented that a decrease in theta and gamma connectivity, which can be associated with the generation of fear, is associated with PTSD symptom severity [71]. The greater the dissociation, the greater the symptoms. The same pattern of the incoherence of gamma theta network oscillation found in PTSD was also found in temporal lobe epilepsy patients [72]. Childhood trauma has been demonstrated to be a susceptibility factor for PTSD and the genesis of epileptic and psychogenic seizures [73]. With regard to migraine headaches, Xiang et al. (2013) found an increase in low-frequency brain waves and especially high-frequency brain waves in cortical activation and headache phases of migraine attacks in childhood [74].

Similarly, Wu, Davis-Ajami, and Zhigiang (2016) conducted a multi-frequency analysis of brain connectivity in migraine sufferers and found increased functional connectivity in low-frequency

bands compared to the controls [75]. Compared to those without aura, those with an aura had increased functional connectivity in the theta band of the occipital area. They found that functional connectivity in the theta range was significantly impaired as it was in the high-frequency range, which is similar for people with epilepsy.

Additionally, O'Bryant, Marcus, Rains, and Penzien (2006) pointed out that post-traumatic headache sufferers experience a variety of headache symptoms [76]. Post-traumatic headache is associated with a headache developing within seven days of consciousness. Peterlin, Nijjar, and Tietjen (2011) also demonstrated a connection between PTSD and migraines; PTSD increased the odds ratio of having migraine headaches in men by a factor of 21 [77].

This same connection with PTSD has been found in autoimmune disorders. Examined the medical records of 478 patients with SLE, of which 95 had a history of seizure [78]. Of those, only eight were considered normal, while 87% were considered abnormal. Left hemisphere abnormalities were found in 79.6% of patients and right hemispheres in only 4.7 % of patients. The most notable theta and delta slowing and localized abnormality were found in the left temporal lobe, similar to temporal lobe epilepsy patients. Roberts et al. (2017) conducted a longitudinal study of 54,763 women with PTSD studied over 24 years and found that the risk of developing SLE in patients with PTSD was much higher [56].

Additionally, regardless of whether PTSD was diagnosed, trauma exposure was even more strongly associated with SLE. O'Donovan et al. demonstrated that those who developed PTSD in Iraq were at an increased risk of autoimmune disorders. Lee et al. (2016) found a similar correlation between PTSD and RA [55]. Dube, Fairweather, Pearson, Felitti, Anda, and Croft (2009) conducted a study of childhood trauma and hazard risk for developing an autoimmune disorder in adulthood [79]. They found that the higher the adverse childhood traumatic events, the greater the hazard ratio of having an autoimmune disorder in adulthood. These relationships could be explained by the hippocampal amygdala connectivity region that is responsible for chronic medical disorders and mental health conditions.

Barach (1991) was one of the first researchers to connect dissociation with attachment theory [80]. He demonstrated that patients with multiple personality disorders, now known as dissociative identity disorder, have extreme detachment or emotional responsiveness, similar to children who experience losing their primary caretaker. Barach (1991) noted that children with unresponsive caretakers were also likely to engage in dissociative or "detached" behaviors [80]. Liotti (1992) proposed that disorganized periods of attachment-based on a real lack of responsiveness of the mothers' attachment to her child may be associated with the genesis of dissociation [81].

Main and Hesse (1990) further suggested that when a parent appears frightened in their interactions with their infant child, the child may infer that something is threatening in the environment that should be feared [31]. They suggested that a frightened parent in the face of a threat may result in a conflict for the infant in approaching the parent for protection and help when frightened. They may see the parent as aware of the problem or as a stabilizing

influence. This may lead to an ambivalent attitude of the infant towards their parent, resulting in a disorganized form of attachment and, according to Liotti (2006), dissociation [82].

Liotti (2006) further postulated that disorganized basic attachment when there is no further trauma and interaction with the parent becomes less fear imbued and more consistent, leading to attachment relationships later in life that might simulate that of the original parent and child relationship [82]. The second pathway, in which parent-child interactions continue to be inconsistent and contradictory, but the child does not encounter severe trauma, would lead to infrequent dissociation during times of extreme stress. However, in these cases, there is not enough trauma to precipitate complete dissociations. In the third type, however, the child has ongoing severe stressors, and the child develops a dissociative disorder from the underlying attachment failure and those ongoing stressors.

Ogawa, Sroufe, Weinfield, Carlson, and Egeland (1997) tested the correlation between early environmental experience and the genesis of dissociation symptoms later in life on a sample of 126 children from low-income environments followed from birth to age 19 [83]. Although they found that the severity of childhood abuse correlated strongly with the onset of dissociation symptoms, the mother's unavailability and disorganized attachment correlated even more strongly. Lyons-Ruth, Dutra, Schuder, and Bianchi (2006) postulated that stress and trauma in infancy might be directly associated with inconsistent maternal behaviors, in which a mother's emotional availability and affective signals of that availability may be traumatic for the child [84]. This inconsistency may result in traumatic experiences that are less overwhelming and often do not lead to dissociation or partial dissociation, depending on later life experiences. The functional interrelationship between basic attachment failures and adaptational experiences later in life work because the former provides the ability to trust and use support when dealing with stress.

Mesulam (1981) conducted an EEG study of individuals with dissociative symptoms and found the same pattern of disturbance in brain waves as seen in PTSD patients. However, this abnormality was noted to be present unilaterally and on the contralateral side to the individual's handedness [85]. That is, left-handed individuals had a deficit on the right side and vice versa. This affected the side of the brain that is predominantly the "cognitive side," as opposed to the unstructured attachment side. We could conclude that patients with chronic disorders used the intellectual part of their brain to control the trauma in their lives, which permitted them to function for a prolonged period until stressful circumstances, but this broke down years later.

This conclusion is consistent with our knowledge of dissociation disorder in general, where individuals sequester the memory of the trauma to the intellectual part of the brain, hidden from view. In a sense, this is a form of dissociation. Only at times of stress will dissociation become unwrapped and the dissociated traumatic experiences are viewed. These chronic disorders have the same attachment-based pathology as PTSD, but the difference is that trauma is less extensive and can be sequestered to a dissociated region of the person's cognitive self.

Farina, Liotti, and Imperatori (2019) performed a meta-analysis of

the role of attachment trauma in the genesis of traumatic dissociative disorders, including PTSD [81]. They cited evidence that early traumatic attachments are associated with specific psychopathological vulnerabilities based on dissociative pathogenic processes caused by traumatic attachments. Dissociation is involved in PTSD and dissociative disorder without PTSD. Traumatic forms of attachment have also been documented for migraine headache sufferers [86]. Similarly, trauma during the attachment period of development and the genesis of both psychogenic and epileptic seizure disorders have been documented [87]. Myers, Trobliger, Bortnik, Zeng, Saal, and Lancman (2019) conducted a study of patients with intractable partial epilepsy vs. those with psychogenic non-epileptic seizures [88]. They found that the degree of dissociation was present in both types, but the psychogenic seizure group had a greater amount of direct trauma such as sexual trauma. Liotti (2006) presented evidence that attachment disorganization, a form of attachment deficit, may be connected to the dissociative process [82]. Dissociation may then link PTSD, dissociative disorders, headache and epileptic disorders, and trauma. Therefore, dislocation, which is present in trauma associated with mental health conditions, is also present in some chronic disorders only with a lower extent of dissociation, reducing the extent to which it paralyzes the person's ability to function.

Autoimmune disorders such as SLE, RA, temporal arteritis, multiple sclerosis, type 1 diabetes, psoriasis, and Guillain-Barré syndrome have also been recognized as associated with stress and stress-related disorders. Song et al. (2018) conducted a Swedish register-based retrospective cohort study that included 106,464 patients with a stress-related disorder and found that exposure to a stress-related disorder was significantly associated with an increased risk of an autoimmune disease [89]. Similarly, Barbosa, Ferreira, Patrício, Mota, Alcântara, and Barbosa (2010) found an association between insecure attachment style and the incidence of SLE [90].

There is substantial evidence that insecure attachment plays a very important role in shaping the immune system. In an analysis of the immune system, Ehrlich (2018) demonstrated that insecure attachment has been linked to failures in the immune system in both cellular immunity and acute inflammatory processes [91]. Fagundes, Glaser, and Kiecolt-Glaser (2013) conducted a literature review that cited considerable evidence that stress in early life experiences has been associated with lasting immune dysregulation, chronic immune-based diseases, and elevated mortality from those diseases [92]. Danese et al. (2011) found that maltreated children have elevated inflammation compared with those who are not maltreated [93]. In their large-scale longitudinal prospective study, they demonstrated that children who were neglected during the first decade of their life had higher CRP levels at age 32 compared with those who were not neglected. Indeed, more than 10% of adult low-grade inflammation is attributable to child maltreatment [94]. This dysregulation of immune homeostasis, induced by attachment failures in childhood and subsequent stress, leads to autoimmune diseases.

Vignali and Kuchroo (2012) outlined the mechanisms by which immune dysregulation can lead to autoimmune disease [95]. They cited evidence that autoimmune diseases arise when the balance between regulatory T cells and pathologically ineffective T cells

is disrupted with a greater preponderance of ineffective T cells. These ineffective cells cause tissue damage instead of fighting infections. The evidence supports the finding that attachment difficulties, especially anxious attachments associated with subsequent traumatic life stressors, can result in immune dysregulation and greater tissue damage, including brain tissue damage. This tissue damage can differentially affect brain tissues, such as the amygdala, which shut off the body's reaction to stress. This is the same mechanism in the dissociation defense and frontal lobe hyperactivity response to stress.

As autoimmune disorders, as cited above for SLE, can damage the amygdala, they can slow the ultimate defensive purpose of the autoimmune disease process. This is similar to the dissociative process in that both result in reducing amygdala hyperactivity caused by stress and ineffective, anxious attachments while preserving fragile attachments. However, these diseases do not result in the dissociation present in the headache, seizure group. Instead, they are connected to immune system hyperactivation due to stress. This would be a more body-based adaptation, which would be less extensive in its limitation of the individual's ability to cope than a brain-based adaptation.

However, all of these disorders are connected to the same failure of the attachment process, resulting in increased stress susceptibility. The primary issue in each case is not the form of the illness itself, whether it is a mental health condition or a chronic medical disorder, but the overall failure of the attachment system in dealing with stress. The fact that these chronic medical disorders and mental health conditions are often comorbid with one another supports the hypothesis that they are based on a similar etiology. Their common element is the extent to which they affect the ability to adapt to the environment and the degree to which they affect attachments. This supports the addition of an attachment-based treatment component in addressing each illness type.

The most severe forms consist of disorders that constantly attract individuals with little freedom to function and are considered to be PTSD. Of lesser severity are those disorders that are categorized as dissociative. Although PTSD patients dissociate, those with a dissociative disorder without PTSD symptoms can be less consumed with trauma, and the dissociative process leaves their cognitive hemisphere free of dissociation, and, therefore, free to function in a normal manner.

Headaches and seizure disorder patients are also associated with the dissociation process but to a lesser degree than those with dissociation disorders [96]. These patients had greater periods that were symptom-free than did those with dissociation. Patients with autoimmune disorders have few dissociation symptoms, and their disorders are more relegated to their soma than their higher cognitive functions. There is significant evidence that patients with autoimmune disorders can cope with stress while leaving the bulk of their personality function intact [97].

Attachment deficits appear to be a consistent problem in each of these conditions. In each type, there is evidence of an inconsistent, anxiety-filled attachment, in which the mother was either overwhelmed with fear and anxiety or, in other ways, inconsistent in her availability for her infant as a predisposing condition for later

disorders. The evidence indicates that each of these conditions is a response to stress and an inner inability to respond to stress due to the same type of attachment failure. Each may be associated with a dysregulation of the hippocampal/amygdala brain region, as this is the primary brain region associated with the brain's response to fear. If we consider the sympathetic and parasympathetic nervous system as our bodily stress response system, the hippocampal/amygdala and prefrontal cortex system would be a more advanced coping system. Is it possible that these disorders are symptoms of a system's failure and that these form a hierarchy of failure of that system? This would suggest that the more severe the failure, the more extreme the adaptation process, which requires a more time-consuming adaptation. If that is the case, then, the attachment system may provide the fulcrum for the genesis of the ability to cope with stress and develop ways of strengthening the adaptation system based on working with a favorable modification of the attachment system.

Another major link is the association of Selye's general adaptation syndrome (GAS) phases to different types of chronic medical disorders and mental health conditions. The acute alarm phase of the GAS is analogous to the alarm phase of medical conditions such as seizures and headaches as well as the mental health condition of PTSD, as they each represent an alerting function of the body and mind. In the GAS, this is represented by hyperactivity of the adrenal cortical system, which is geared to mobilize the body to adapt to the potential stress. In the case of PTSD, the amygdala's hyperactivity activates the brain to an "alarmed" state to alert the brain. In headache and seizure disorders, there is a similar activation of the amygdala alarm system [98, 99].

With regard to the second or adaptation phase of the GAS, dissociative disorders provide the same defense against damage from stress through the use of the anterior cingulate to buffer the effects of the amygdala-based hyperactivity from reaching and damaging the cortex. Similarly, autoimmune disorders also buffer the amygdala's impact by setting up a defense to stop the hyperactive amygdala by damaging the amygdala. The evidence supports the continuity of the adaptation process between bodily adaptation processes and their role in the genesis of chronic disorder and brain-based adaptation, which is involved in the genesis of both chronic medical disorders and mental health conditions. It may be that the extent of the adaptation failure and the stressors involved might determine the adaptation of the individual. However, strengthening the attachment system and helping individuals learn coping skills for dealing with stress involves treating both types of disorder, similar to their treatment from a medical perspective. To demonstrate that the response to stress links Selye's general adaptation system with the attachment-based stress system, it has been demonstrated that the latter reduces cortisol responsivity to stress. An enhanced negative feedback system of cortisol feedback has been found in patients with PTSD, which creates a greater suppression of cortisol from dexamethasone [100, 101]. Morgan et al. (2004) demonstrated that the greater the dissociation response of individuals to stress from military survival school, the worse the performance, and the lower the dehydroepiandrosterone/cortisol ratios in response to that stress [102]. As dehydroepiandrosterone is secreted in response to ACTH stimulation during stress, this indicated that the dissociation reduced the adrenal response to stress while simultaneously reducing the person's performance ability.

The same blunted cortisol response to stress is seen in migraine sufferers (Maleki et al., 2012), while in temporal lobe epilepsy sufferers (Zobel et al., 2004), there is an impairment of adrenal inhibitory control when faced with stress [103, 104]. In chronic temporal lobe epilepsy sufferers, there was a decrease in cortisol and dehydroepiandrosterone [105]. In autoimmune diseases, in periods of acute stress that last for less than a few weeks, cortisol is generally suppressed [106]. It appears that the cortisol responsivity to stress, which is a hallmark of the GAS, may be suppressed by these attachment-related disorders. This may be an adaptive mechanism as the brain provides a more flexible response to overwhelming stress and inhibits bodily responses. These brain-based responses may protect the body from the ravages of too much cortisol, which can be harmful.

The hierarchy of adaptation to stress from bodily adaptations, as emphasized in the work of Selye, to chronic medical adaptations, dissociative disorder-related adaptations, and full-fledged PTSD brain-based adaptations suggests that the process of adaptation works as a whole, not as separate parts. The higher the stress, the more insufficient the adaptation capacity, the higher in the brain the pathology reaches. Furthermore, the fact that the brain-based adaptations tend to shut off the bodily ones emphasizes the function of the process as a whole as protective of the body-brain joint adaptation process.

Treatment of Stress-Related Disorders through the Attachment System

Kaptchuk et al. (2010) provided a randomized control trial of patients with IBS in which they demonstrated the efficacy of placebo treatment vs. a non-treatment control group, based on a mind-body self-healing process [107]. This process demonstrated that the placebo, even when the patient was told it was a placebo, worked better than the controls, even though the patient-doctor relationship was the same between the two groups. Lembo (2020) discussed the possible reasons for this placebo effect, which was based on brain imagery studies, citing that the anterior cingulate cortex, the thalamus, posterior insula, and areas of the somatosensory cortex might be involved [108]. Ballou et al. (2018) suggested that a major contribution was thoughtful listening, asking more open-ended questions, empathy, and optimism in the treatment's potential outcome [109]. We also know that the prefrontal cortex is involved [110]. Blasini, et al. (2018) outlined the importance of the patient-practitioner relationship and demonstrated that an empathic, caring, and hopeful attitude positively influences the placebo response, because they are embodiments of the therapeutic environment [111]. Benedetti (2013) described the placebo response to the "new physiology" of the doctor-patient relationship, in which that relationship has an important, neurobiological basis that directly affects the treatment of medical conditions [112]. He demonstrated how the neurobiology of the effect of the doctor-patient relationship has a direct bearing on the disease process and its reversal, and this eliminates the old dichotomy between medical biology and psychology.

Holmes and Elder (2016) provide evidence of the importance of the attachment between patients and physicians, which has been markedly eliminated from medical practice by becoming more technologically based [113]. They cited evidence that patients seek "doctors who listen." The evidence from the placebo effect liter-

ature demonstrates that the attachment between patients and their doctors may provide a healing effect beyond the medication they offer. Our discussion of the continuity between stress-related adaptation failures having either a mental health or chronic medical result might be because of a similar vulnerability to stress and an earlier developed attachment failure. As Holmes and Elder (2016) suggested, the physician's healing attitude and therapeutic environment may be a remedy for that deficit in attachment, which may be an essential aspect of the healing process often absent from the treatment of these diseases [113]. This conclusion is supported by Kelley et al. (2009), who performed placebo acupuncture on IBS patients in a warm, empathic interaction, neutral interaction, or waitlist control [114]. They separated the patients through a videotaped session review and found significant differences in outcomes, and this effect was twice as large as the effect of which of the three groups they were assigned. The use of acupuncture as a placebo augmented the placebo effect and the warm, empathic practitioner, especially when interacting with an outgoing female patient, had the greatest effect.

Other non-medical treatments may have a similar effect as acupuncture on the placebo response for IBS patients. Keefer and Blanchard (2001) cited using relaxation response meditation to reduce IBS symptoms, and Gonsalkorale, et al. (2003) examined long-term hypnotherapy, biofeedback (Goldenberg, et al. 2017), cognitive behavioral therapy (Kinsinger, 2017), and other intervention types that are considered placebo controls relative to the medical condition [115-118]. In summary, a psychological approach primarily based on the strengthening of the doctor-patient relationship has been demonstrated as an important contributor to our understanding and effectiveness of our treatment for chronic medical conditions such as IBS.

As there is a confluence between the genesis of stress-related chronic medical disorders and mental health conditions from stress and the vulnerability to that genesis based on a similar attachment failure, emerging psychological treatments may converge on treating the underlying attachment-based vulnerability to the disease. This attachment base may strengthen the combination of therapeutic alliance-generating treatments that may buffer individuals to the impacts of stress, whether the end symptom is psychological, such as PTSD or dissociation, or medical, such as headaches, epilepsy, or an autoimmune disorder. Therefore, in patients who have a combination of chronic medical disorders and mental health conditions, attachment is critical to recovery. Furthermore, treating attachment issues may enable the patient to become less vulnerable to stress, reduce the degree of the problem, and increase energy for more productive activities. It may be useful to consider this spectrum of disorders on a continuum from the most to the least impeding for a functioning, high quality of life and systematically altering treatment according to the continuum phase.

Methods

In the next section, two patients with stress problems are reviewed; both had attachment deficits and medical- and mental health-related stress disorders. I chose these patients because stress-related problems produced both their mental health and medical problems concurrently and because both had clear attachment problems, an underlying deficit the resolution of which lead to both a resolution of the one type of problem and then the resolution of the other type

in a sequential manner. Furthermore, they differed in that with one patient, to form a therapeutic alliance, I had to deal with the mental health problem first, while with the other I had to first deal with the chronic medical problem. Thus, together they form an indication of how closely interwoven these two types of deficit are. In both I used an attachment-based psychotherapy method, in which I was able to experience the fears of each, and they knew my responses were due to my experiencing of these fears. In both cases, based on my attachment with them, I became their advocate. In both cases, I show how the parents of each were unable to be aware of their child's fear and that was the major precipitant of the attachment deficit. Neither had experienced anyone as their advocate before their treatment. The attachment I formed with each was a key factor in resolving their chronic medical and mental problems.

In one case, I was able to use acupuncture to help with her headaches, which lead to her forming an attachment with me. This was not just because of the acupuncture, but also because I was aware of the intensity of her fear and that was why I used it and was aware of the degree of relief it provided. I was attached to her when I was helping her. Acupuncturists are often aware of and share the fear and pain of their patients and this is one of the reasons for their success (D. Euler, personal communication).

Regarding the other patient, although she had been in one or another form of psychotherapy almost her entire life, no one had ever been aware that she was dissociating almost all the time, and no one had been aware of the intense fear from which she was constantly suffering that produced her dissociations. When I was able to tell her I was aware of both, she could show me her fear as she had not been able to do with anyone else. My sharing this fear, which no one in her life had done before, and being her advocate due to my awareness provided the basis for our attachment. Once she could resolve the dissociations, she could begin to rework her lifestyle from one that was filled with constant stress and controversy with everyone to one who was generating support and affection. This plus my working with her on resolving those stresses led to the resolution of her multiple stress-related medical problems, including her autoimmune disorders.

The review will examine how using this attachment perspective, consisting of sharing these patient's fears and providing an advocating attitude to help them master those fears, enabled them to resolve the mental and physical aspects of their disorders. It illustrates the fundamental interrelationships between the two types of disorder, and how both can be systematically approached from their common attachment-based vulnerabilities to stress.

Results

Case Studies

Case History: Darlene

Darlene was 35 when I began treatment with her. She had raised four children with her husband to whom she had been married for over 20 years. Her father sexually abused her from the time she was five until she was 16. She had been adopted when she was an infant and had never met her birth mother, who had given her away for adoption because of poverty. She was raised with a brother who was also adopted by this family.

She had been dissociating since she was a teenager, although she

had seen numerous psychotherapists and psychiatrists before her treatment with me, none had recognized the dissociations or the extensiveness of her fear. Despite a strong motivation to overcome her disorders, she was in constant turmoil and felt no one loved her. She believed her husband, a lawyer, was regularly abusive and would take her children's side against her. When I told her at our first meeting that she was dissociating because she lost track of time, would not feel much sensation most of the time, and did not remember what had occurred over long periods in which she would be angry, cut herself, or attempt suicide, she was astonished that I would know this. Although she knew that her childhood had been exceedingly painful, she devoted herself to raising her children. She felt that raising them successfully had been a major source of satisfaction in her life, in sharp contrast to her upbringing. Although she was aware that her relationship with her father was abusive, she believed that he loved her, and when he gave her extra money to do things as a child, she felt special. She believed her mother was involved with her but could not understand why she "allowed" her father to do the things he did. Sometimes, she believed her mother must not have loved her if she permitted such things to happen.

She had numerous relationships with men she felt were interested in her sexually but not for a real relationship. She had two failed marriages. When she met her current husband, she felt that he treated her with respect. However, over time, she felt he was also abusive, but not physically, and was not cruel like her previous husbands. She focused on successfully providing her children with the affection she had not received, as her mother was mostly unaware of her fears and rarely affectionate. Despite her efforts to resolve them, the dissociations continued and deepened over the years.

When I initially began treatment, she was suicidal and thought no one loved her. From the glazed look in her eye and the emotional distance I felt from her, I knew she was not really "with me." Although she was motivated for help, I could tell she was not "connecting" with me or likely anyone else. She would speak mechanically, telling me of her wish to be an artist, her fears of people abusing her, and her wish to end it all, but I felt I could not really relate to her or engage in a collaborative relationship with her. Something, which I believed was her dissociations, was always in the way.

When I asked her if she lost track of time, she confirmed this but said that none of the numerous psychotherapists and psychiatrists she had met had asked her this. She told me that her husband did not respect her, and at meals, he would sit talking to his daughters, excluding her at the other end of the table. Darlene was happy to listen to my interpretations. She was grateful that after all this time, someone had finally realized what was wrong. She decided to see me more often to develop an intense relationship that she knew she needed to recover from the life-long torment from her condition.

As we began to discuss why she dissociated, she told me that her husband had thrown out a chair that her father used to sit on without asking her. She was reminded of the details of her father's abuse. She told me that after her father abused her, he used to give her extra money that she could use to buy new toys. She used to

feel special about this and took this to mean that her father loved her, even though she was aware that what he was doing to her was harmful. She was terrified of the abuse, but it appeared that she could not tell her mother because she felt her mother seemed to support what was going on. Her mother would deliberately avoid "discovering them," even though it was obvious. She was amazed that her mother would sleep in the same bed with him, knowing what was going on. The confusion she felt about this "secret" caused her to begin dissociating to "forget" what was occurring and pretend that everything was fine.

As she told me this, she began to drop her dissociations. I approached her as an advocate because I could feel her distress and constant fear and wanted to help her learn how to resolve them. When she discussed her youngest daughter's attack on her while she was driving her car, she told me that she dissociated and floored the car to the point that her daughter screamed in terror. She was able to tell me about this because the dissociations had remitted to that point. As her advocate, I suggested that she set limits with her daughter. When her daughter begins an attack, she should leave the room. With regard to her husband, I suggested that she insist that he sit next to her and not his daughters. This resulted in her going away on a short vacation with her husband and feeling that they could enjoy each other's company, which had not happened before. As I was acting as her advocate, she remembered that her mother had not acted in this way. She remembered that when she was five years old, a boy in her class showed his penis to the class during show and tell. Although this terrified her, her mother thought it was funny. My advocacy represented the opposite reaction to her mother's. I was aware of her fear as her mother was not. This was the basis of our attachment.

In another prominent incident, the patient's best friend, whom she considered a mother figure for many years, actively refused to come to their house for a holiday party because her son had told her to exclude the patient from her life. She considered this as abusive, which was a correct understanding. When she told her husband about this, he was more supportive of her than usual, and I was her advocate. Additionally, I helped her find a way to manage this situation by enlisting the support of others who found out about the incident. In the past, whenever she tried to get support, it would turn out to be adversarial. She told me that she had not received advocacy before as no one had bothered to be aware of her constant fear. This advocacy enabled her to shift from dissociations to successfully cope with the attacks and remember and recreate in the treatment setting the memories that had produced her dissociations in the first place. This worked because my underlying advocacy made her aware that I was connected to her based on my awareness of and experience of her fear. This meant that I was attached to her at a more advanced level through my advocacy, but this was an extension of my basic fear-related bond.

She went through an enactment in which she forgot to make appointments to avoid seeing me for nearly two weeks. She became very upset, and I did everything I could to reverse this problem when I found out. However, despite our best attempts, we could not arrange an appointment. When she returned, she did her best to pretend that everything was back to normal, but it was not. Since the incident where her best friend ostracized her, she had not been the same despite my efforts to support her. She became more upset

that her husband was ignoring her and now felt I had as well. I suggested that the problem was an enactment in which she needed me for support in the face of abuse, and I was not there. The patient could use this re-experiencing to recall never being able to have anyone to turn to when in need, which arose from the feeling that her mother was never there for her.

However, after this enactment had ended, she felt much more hopeful. For the first time, she was able to feel that she belonged to her home and that her husband loved her. She was pleased because her children began to support her instead of seeing her as their enemy. Several months later, she had a similar enactment that was caused by her daughter's refusal to allow her to hold her grandchild even though she was living at the patient's home. The patient saw this as an attack, and due to her improved self-esteem, she became very angry with her daughter. At the time, we were restricted by COVID-19 lockdown restrictions, and we spoke through Skype. She was upset, which overwhelmed me, and I fumbled with my phone and had trouble focusing on her. She became very upset that I was not there for her when she needed me. In the next session, I was able to show her that this was an enactment, once again, of her mother's inaccessibility when she needed her most. Consequently, she was able to expel her daughter from her house and told me, "I will never be abused again."

As her life stabilized, she found that she had minimal stress in her life, at which point her SLE and RA symptoms markedly attenuated, and she no longer had to take steroids. Instead of doing daring things, she became more conservative. She began to insist that her husband was not her enemy but sided with her in conflicts with their children. Then, she insisted that he needed mental health help as well, and as a result, he became much more affectionate. She also began to seek medical attention for her remaining chronic disorders, and they were nearly resolved. As her attachments took on a much more positive tone, she did not expose herself to stressful situations, and her medical conditions associated with her constant stresses were eliminated. The connections between her history of abuse, her attachment failures, and her dissociative and connective tissue disorders were clear from this treatment.

Case History: Wilma

Despite numerous attempts, no EEG evidence of abnormality was found for Wilma's chronic seizures, nor was any medical solution found for her chronic migraines. She had been a successful nurse for many years when her symptoms forced her to retire. She had been married but divorced her first husband due to his drinking and infidelity and had remarried successfully, and her current husband was stable and supportive.

Wilma was the second of four children and had two adult children. Her mother was an assistant nurse and head of the household during most of the patient's developmental years. Her father was in jail for sexual abuse—he had first abused Wilma when she was less than four. Her mother blamed Wilma for his absence and mistreated her in her early years. Her mother went to her other children's graduations and birthday parties but never attended Wilma's. Although Wilma excelled in sports, her mother never supported her.

When she was six or seven, her older brother also sexually abused

her, but when she told her mother, the mother accused her of lying. Despite this traumatic early upbringing, Wilma did very well in school and was socially well-liked; she kept her traumatic past to herself and told me about these incidents only after being in treatment with me, once every two weeks for two years.

Wilma was difficult to engage in treatment because she was so preoccupied with her somatic conditions. To attempt to connect with her and to help her with her headaches, I used acupuncture. The acupuncture (Euler and Matsumoto, 2014) was successful initially, but I added additional forms, including cupping and various other treatments, as time went on. All of these helped to a limited degree, and at times, the headaches worsened [119].

However, the acupuncture stimulated a very strong attachment to me, and she started to talk about her experiences of abuse and the terror she had endured in childhood. I felt this terror through her communication; before my use of acupuncture, this mode of communication—the communication of fear—had been dormant.

As her attachment to me became stronger, and the acupuncture was no longer successful in treating the migraines, I abandoned it and concentrated on the psychotherapy. We focused on sharing her very intense fears. At one point, she confronted her brother with what he did. He told her she was crazy, but with my support, she persisted until he was gradually able to admit what had happened.

However, she had not been able to confront her mother, and I began to challenge her belief in her mother's ultimate goodness and her hope that her mother would eventually come around. She began avoiding her mother, but her mother then came to Wilma's church during a service and admonished her—in front of the congregation—for being a bad daughter. To Wilma's surprise, the minister called them both to his study and told her mother that she should not assault her daughter. According to Wilma, he was uncharacteristically stern and asked her mother to leave the church. A week later, her mother appeared at her doorstep and did the same thing, until Wilma's husband told her to leave.

When Wilma's nephew was released from the hospital after being treated for a lung infection, she and her husband drove him home. Shockingly, on the way, he developed a seizure and died. Wilma's mother accused her of causing the death and told her other children, who dutifully believed her. This traumatized Wilma and her husband, but I reassured her that she had not done anything wrong. I explained that her mother was not her friend and strongly advocated that she not think of her as one. I supported her in advocating for herself toward her siblings. Although I could tell that Wilma dissociated a good deal of the time during her initial treatment with me, my advocacy of her in relation to her mother's abuse, based on my awareness of the intense fear that her relationship with her mother was causing her, began the process of stopping those dissociations.

Several years after Wilma began treatment, she developed breast cancer. She shared her distress with me as she underwent the pain and suffering associated with chemotherapy and lumpectomy. She survived but had a recurrence, requiring more radical chemotherapy. I helped her through this additional trial and celebrated with her when she became cancer-free.

Eventually, Wilma's husband decided to leave her. He had been frustrated with her inability to live in the world and her many illnesses. During her illnesses, especially after her husband left her, I continued to feel and share her fear. To Wilma's great relief, her husband decided that he missed her too much and returned home.

Despite her traumatic upbringing, Wilma's open mode of relating had begun to grow on her husband and family. Gradually, she overcame her fear of leaving home and doing things globally, and she went out with her husband. She told me that our relationship provided a safety that she had never known. I told her how much I admired her bravery through all her hardships and that I admired that she had overcome these by staying with her treatment.

After Wilma had stood up to her mother and had overcome her PTSD symptoms, she had a recurrence of breast cancer. As she would not permit her mother's attacks, which continued as her mother insisted she had killed her nephew, she had to give up. When Wilma's mother was diagnosed with dementia, she wanted to visit her, but I suggested that her mother's condition would likely make her angry toward her, and she refrained from going.

The therapy's safety, in which Wilma shared her fears with me, and I felt them and was her advocate, could be generalized to her relationships with her husband and children. Instead of being "guarded" using dissociation to cope with her fears while she pursued the abusive relationship with her mother that had precipitated the fears, she also learned to share her fears with them and learned to experience the safety of her home and venture out. This helped her develop contextual fears, which allowed her to experience her mother's anger at her as dangerous and avoid being retraumatized.

Wilma's health continued to improve, as did her relationships with her husband and children. However, her cancer did not. The attachment I had formed with Wilma enabled her to continue her prolonged breast cancer treatment despite her many doubts about its success. Due to her newly developed ability to form attachments, her husband returned, and she was able to accept regular calls from her cancer doctor for checkups. She successfully overcame her cancer and dealt with her mother's death, who died of Alzheimer's disease. This treatment supports the connection between seizure disorders, headaches, PTSD, and cancer resolution, which are all associated with a failure of attachment, which affects the amygdala-hippocampal brain region associated with the generation of fear resolution.

Discussion

Dehghani-Arani et al. (2018) used an attachment-based model of mother-child attachment-based treatment, called the mother-child-disease triangle, to treat children with chronic disease [120]. They found that those who received this treatment had a better attachment to their caregivers and had a better physiological and psychological health than did controls. Kradin (2011), in discussing the effects of placebo in resolving gastrointestinal disorders, provides evidence that the placebo has an impact analogous to that of the attachment factor in mother-infant relationships because it addresses the same brain pathway [121]. Similarly, Luyten, et al. (2013) argued that a common therapeutic thread across treatments for pain and chronic fatigue syndrome is related to the

patients' reflective capacity, which is associated with their mentalization capacity [122]. This capacity is bolstered by mentalization treatments which support attachment. Although attachment-based treatment strategies are just beginning to address the attachment aspect of chronic disease, they are already showing considerable promise.

Conclusions

The connection between chronic medical disorders and mental health conditions in these two cases illustrate the continuum that I am proposing might be present between these two types of conditions. The type of attachment deficit may be the fulcrum upon which both types may turn. I have demonstrated that, in both the cases I have presented, the person's early traumatic attachments may have precipitated both types of conditions, and as the attachment-based treatment continued, one type was resolved, leading to changes in the way they dealt with stress, which led to the resolution of the other type of condition.

From the case studies and the literature, it can be seen that conditions associated with stress might be connected with a failure of attachment, which could be considered an anxious attachment. The cases illustrate that addressing the underlying deficits through psychotherapy can enable the individual to feel more secure and modify their lifestyle to create less fear when faced with a similar stressor. By forming attachments with their loved ones that are no longer guarded and distant, they are able to experience support from others that they have not been able to feel before. In this manner, the person's defensive system is strengthened, similar to how cortisol shores up the defensive system when faced with stress. They learn to avoid danger instead of seeking it out. They learn to seek support instead of avoiding it. As many of the stresses we currently face are psychological, the connection between bodily and brain-based adaptation systems may be more interrelated than we realize. As such, combined medical and psychiatric disorders should be further researched. Additionally, these cases each provide evidence that both the patient's chronic medical disorders and mental health conditions may have emanated primarily through a combination of stress and failure to adapt to stress because of the same early attachment failures. Alternative medical strategies, such as acupuncture, can augment the attachment process, as illustrated in the second case. Further research might enable us to more deeply understand and use these alternative medical strategies in the formation and integration of attachment processes in treatment.

This study presents some limitations, because it is supported by case study evidence as opposed to more objective, large placebo-controlled trials. Furthermore, assessments were not done by objective means but by more subjective ones. However, it can serve as a basis to stimulate that type of research. In addition, it can stimulate further research into the use of alternative medical treatments in the development of attachment bonds to buffer stress. Though, to the best of my knowledge, this is the first article to present the attachment-based linkage between chronic medical disorders and mental health conditions and to provide a common treatment for both. This article provides strong support for the use of alternative medical treatment and of attachment-based treatment for resolving both chronic medical and psychiatric stress-related conditions.

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