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Fibromyalgia and childhood abuse: Exploration of stress reactivity as a developmental mediator

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ABSTRACT

The purpose of this paper is to explore whether the human body's stress reactivity in response to trauma may be a possible developmental mediator between childhood abuse and the development of fibromyalgia (FM). Four points are emphasized in this article. First, studies that have examined the prevalence of childhood physical, emotional, and sexual abuse in FM patients are evaluated. Second, health and neuroendocrine differences between abused and non-abused FM patients are examined. Third, studies that tested the association between childhood abuse and stress reactivity characterized by neurobiological abnormalities are reviewed. Fourth, studies that have investigated the association between stress reactivity and FM are analyzed. The results of the reviews showed significant associations between childhood abuse and FM, childhood abuse and stress reactivity, and stress reactivity and FM, indicating that childhood abuse may be one of the etiological factors that could lead to abnormal brain development, affecting stress reactivity, and ultimately lead to the development of FM.

Introduction

Fibromyalgia (FM) is a chronic musculoskeletal pain syndrome characterized by widespread pain in the body, severe fatigue, stiffness, sleep disorder, irritable bowel syndrome, cognitive disturbance, headache, dizziness, and mood disturbances (Mease, 2005). The first diagnostic criterion of FM is the history of widespread pain for at least 3 months (Wolfe et al., 1990). The second criterion is at least 11 of 18 tender points when palpated with about 4 kg per unit area of force (Wolfe et al., 1990). FM

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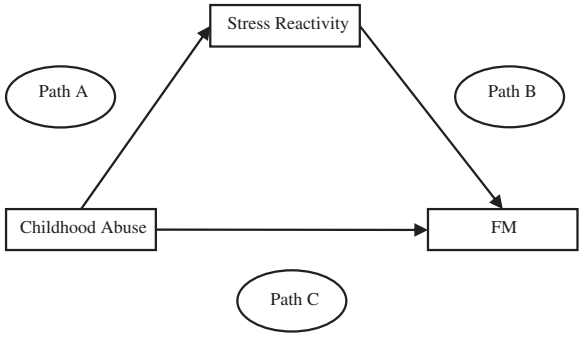
affects about 2% of the adult population (Wolfe, Ross, Anderson, Russell, & Hebert, 1995) or about 5 million people aged 18 years and over (Lawrence et al., 2008) in the USA. Approximately 90% of people who meet the FM criteria are women, with a higher prevalence among non-Hispanic white women (Hawley & Wolfe, 2000).

People living with FM suffer greatly because no clear etiology has been found to treat the illness. This is a major problem for FM sufferers as well as for societies worldwide. Some patients become severely disabled enough to discontinue employment or to rely on disability pensions (Mease, 2005). Because there is no adequate treatment, their main struggles with life become centered on dealing with chronic musculoskeletal pain and coping with limited functioning.

Considering the problem that there is no clear pathogenesis for FM, the purpose of this paper is to explore childhood abuse as one possible cause for developing FM and to investigate whether the human body's stress reactivity in response to abuse may be a developmental mediator between childhood abuse and FM. To address these questions, this paper will first discuss possible etiological factors of FM, and argue why childhood abuse appears to be the stronger cause compared to others. Second, the relationship of stress and trauma to FM, gender differences in stress reactivity and their relation to FM, and a developmental model of FM will be discussed. Third, to test whether stress reactivity is the developmental mediator, this paper will examine empirical studies on the association between childhood abuse and FM, together with exploring health and neurobiological differences between abused and non-abused FM patients. This paper will also review the association between childhood abuse and stress reactivity and the association between FM and stress reactivity to find whether there are significant relations between each of these three paths (see Fig. 1). Finally, this paper will evaluate the research findings and discuss their merits and limitations.

Etiologies of FM

The etiology of FM is unclear and many hypotheses of it have been proposed, suggesting genetic, environmental, or personality factors in the development of FM (Van Houdenhove & Egle, 2004). First of all, familial aggregation or genetic factors have been considered to influence the onset of FM, particularly in the offspring of mothers affected with FM, with daughters being more affected than sons (Ablin, Neumann, & Buskila, 2008). Infections, including the hepatitis C virus, HIV, and Lyme disease



Note. FM: fibromyalgia; Path A: The association between childhood abuse and stress reactivity; Path B: The association between stress reactivity and FM; Path C: The association between childhood abuse and FM.

Fig. 1. Mediator model: Stress reactivity as a developmental mediator between a history of childhood abuse and the development of FM.