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Lesley Davidson

University of Kentucky, lesley.davidson@uky.edu

Hatim A. Omar

University of Kentucky, hatim.omar@uky.edu

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Chapter 4

**FIRESSETTING, SEXUAL ABUSE
AND LONG-TERM CONSEQUENCES**

Lesley Davidson, MD and Hatim A Omar*, MD

Division of Adolescent Medicine, Department of Pediatrics,
University of Kentucky,
Lexington, Kentucky, US

ABSTRACT

In this chapter we summarize the limited studies on post-pubertal consequences of female childhood sexual abuse that includes both psychological distress and physiological stress. The characteristics of sexual abuse are discussed and determined to play a major role in the degree of trauma experienced and in the later effects. The concept of hormones and how disruptions in various endocrine systems can affect the development of these females are examined, especially during the pubertal period. Outcomes of interest included competence, in terms of cognitive, social, self-esteem, and locus of control, and psychopathology including depression, anxiety, dissociation, and hypersexuality. Direct physical results and associated future healthcare utilization are also discussed.

* Correspondence: Professor Hatim A Omar, MD, J422 Kentucky Clinic, University of Kentucky, Lexington, KY 40536-0284, United States of America. E-mail: hatim.omar@uky.edu.

INTRODUCTION

Several authors agree on recurrent long-term effects on females that have been sexually abused during their pre-pubertal years (1). These effects include depression, sleep problems, eating disorders, obesity, feelings of isolation, stigmatization, poor self-esteem, problems with interpersonal relationships, negative effect on sexual function, revictimization, substance abuse, suicidal behavior, history of fire-starting, and psychosis. Some authors have suggested the characteristics of abuse play a major role in the degree of trauma experienced and in the effects of responses. These characteristics include duration, frequency, relationship to the perpetrator, age of onset, and the presence of physical abuse (2). The literature consistently demonstrates childhood sexual abuse has detrimental effects on psychological and physiological well-being, especially during the pubertal years.

LITERATURE SEARCH

The literature search was initially conducted using articles written in the last fifteen years. Terms such as “childhood sexual abuse,” “post pubertal effects of sexual abuse,” and “long term effects of childhood sexual abuse” were used. The articles were limited to include only studies involving females and articles written in English. The search produced approximately ten articles. Most articles were literature reviews and longitudinal research studies. References from the original articles were collected and reviewed, as well. The literature is summarized below to examine common long term challenges pubertal and post-pubertal females encounter after suffering from childhood sexual abuse, the physiological components of these consequences, as well as the psychological impact on female development.

CHARACTERISTICS OF SEXUAL ABUSE

The individual characteristics of sexual abuse play a major role in the degree of trauma experienced and in the effects of responses. The factors that contribute poor outcomes for victims that have suffered sexual abuse in childhood include the duration and frequency of abuse, age of onset, the relationship to the abuser, and the presence of physical violence (2). Fire-

starting has also been associated with sexual abuse. In one study that looked at a small population referred to psychiatry service due to firesetting behaviors, 44% of females reported a history of sexual abuse (3). One work reviewed research that looked at severity of the abusive act (i.e., penetration), duration or frequency, presence of force or violence, relationship to perpetrator, age at onset of abuse. This review indicated the following: first of all, although in each of these areas there were studies showing the predicted result in all cases, associating these factors with a poor outcome, other studies did not show that association. The characteristics most consistently associated with more adverse impact were found to be longer duration of the abuse, force or violence accompanying the abuse, and father or father figure as perpetrator. Furthermore, abuse perpetrated by a biological father was associated with earlier onset and longer duration. Of importance, being abused by an "other father figure" (i.e. Mom's boyfriend) was significantly associated with later onset of abuse and shorter duration. Being abused by multiple perpetrators was associated with physical violence (2). Minority status was associated with later onset of abuse and shorter duration of abuse. Higher socioeconomic status was associated with earlier onset, abuse severity, longer duration, and perpetrators other than fathers or father figures.

LONG-TERM CONSEQUENCES

Sexually abused females have consistently met criteria for significantly more mental health diagnoses than comparison females. Abused females are more likely to exhibit symptoms of depression, trait anxiety, dissociation, PTSD, and somatic symptoms, as well as behavioral problems such as aggression, delinquent behaviors, and school problems (4). By adulthood, the major group differences were higher depression and alcohol and drug abuse (5). The reviewed literature cites "unusual behaviors" as another common outcome for this subset of victims. Unusual and sometimes socially inappropriate or precocious behaviors exhibited by the victims of childhood maltreatment are consistently recognized. These females had significantly earlier ages of first consensual intercourse, which was associated with increased sexually transmitted infections and risky behaviors (6). Sexually abused females reported significantly higher rates of teen pregnancy and teen motherhood (5). Taken together, these results have been instrumental in augmenting a growing body of research focused on how childhood sexual abuse can deleteriously affect optimal sexual development. Sexually abused adolescents report

engaging in risky sexual behaviors that are consistent with the contraction of HIV and becoming a teen mother, which are arguably two of the highest priority public health initiatives facing our youth today (2,7).

REVICTIMIZATION AND DOMESTIC VIOLENCE

Sexually abused females were almost twice as likely to have experienced sexual and physical revictimization compared to victimization rates reported by comparison females. Abused females reported almost four times as many incidences of self-inflicted harm and suicidality and 20% more subsequent, significant lifetime traumas than did comparison females. Sexual revictimization was significantly and positively correlated with PTSD symptoms, dissociation, and sexual preoccupation (5). Victims of sexual abuse are about twice as likely as comparison females to be revictimized (either sexually or physically) at subsequent times during later adolescence and young adulthood. They also have a propensity to engage in self-harm and suicidal behaviors at higher rates than do their nonabused peers (8). In the literature reviewed, domestic violence was defined as having experienced three or more of these acts at the hands of an intimate partner. Results indicate that over 53% of sexually abused females reported at least one domestic violence experience compared to 24% of comparison females. Severe domestic violence is also a common occurrence for abuse survivors, especially if they engage in subtle forms of perpetration that might provoke extreme responses from domestic partners (9).

COGNITIVE DEVELOPMENT AND EDUCATIONAL OUTCOMES

Evolving theory throughout the course of one particular study, for example, the theory of developmental traumatology began to highlight that there are finite ways that the brain can respond to chronic stress (9). Emerging evidence showed that elevated levels of cortisol could lead to adverse brain development (10). Childhood sexual abuse is a substantial risk factor for the cognitive maldevelopment and academic underachievement. Starting in childhood, problematic classroom behaviors and low perceived competence can set the stage for academic problems later in life. Childhood is a critical

period when rapid and dramatic maturation of the brain occurs and thus any assault, such as the chronic stress associated with childhood sexual abuse, during this critical period has the potential to permanently disrupt neuropsychological development for victims (10).

PSYCHOBIOLOGICAL DEVELOPMENT AND PHYSICAL HEALTH

Although the link between childhood maltreatment and deleterious psychological and social functioning has been fairly well established, more recently there is increasing speculation that childhood maltreatment might also have a detrimental effect on psychobiological development and physical health. Early and severe stress leads to an initial heightened stress response, which is in turn, suppressed over time. This suppression may be indicative of an adaptive response given the known consequences of chronic exposure to glucocorticoids including deleterious effects on brain structures (1). This can be explained by the hypothalamic-pituitary axis regulation. Results indicated that sexually abused and comparison females showed similar basal and overall stimulated plasma cortisol levels. Abused females showed significantly reduced total adrenal corticotropic hormone (ACTH) responses to ovine corticotropin-releasing hormone (oCRH) stimulation. Attenuated plasma ACTH with corresponding robust plasma cortisol responses to oCRH stimulation suggests a breakdown in the regulatory hypothalamus-pituitary-adrenal (HPA) system, resulting in detrimental effects on brain structures of developing females.

Abused females were also significantly more likely to be obese than were comparison females. These growth trajectories were compared to CDC population trends and showed that the average linear trend for comparison females mirrored that of the population falling almost exactly on the 50th percentile. However, the linear trend for sexually abused females was persistently steeper than the CDC population trend across development and exceeded the 75th percentile by young adulthood. These results show strong evidence that victims of sexual abuse might readily adopt lifestyles that are consistent with the development of obesity perhaps due to various abuse sequelae such as depression, body image disturbances, poor peer relations, low self-esteem, and/or the development of binge-eating disorders. Further possibility that sexual abuse victims might be predisposed to obesity is due to

the high concentrations of cortisol in the formative years of adipose tissue development that is largely responsible for abdominal fat in females. Females in the sexually abused group report greater healthcare utilization and gynecological problems, more persistent problems with sleep, and higher rates of preterm delivery than do comparison females(2).

ACCELERATED PUBERTAL DEVELOPMENT

Studies have indicated accelerated pubertal development is a common theme seen among abused females. Estimates demonstrated that, on average, abused females reached Tanner breast Stage 2 at 7.5 months earlier and Tanner pubic hair Stage 2 at 6 months earlier than comparisons (2). These results suggest that the experience of sexual abuse may trigger biological mechanisms, which in turn accelerate pubertal development. Early pubertal maturation in females has been associated with several negative health conditions and psychosocial outcomes including increased BMI, reproductive system cancers, adolescent pregnancy, mood disorders, and substance abuse (1).

DISCUSSION

It has been demonstrated in repeated studies there are multiple detrimental outcomes associated with female victims of childhood sexual abuse that span not only the psychological impact on these females, but also the resulting physiological stress and associated comorbidities. These females have lower resting levels of cortisol, asymmetrical stress responses, and increased rates of obesity and earlier onset of puberty. They have cognitive deficits. They think about things differently, especially sex.

They are more likely to be depressed, to have PTSD and dissociative symptoms, to be physically and sexually revictimized, to be involved with an abusive partner, to become a teen mother, and to have a premature baby. They are more likely to engage in self-mutilation, risky sexual activity, abuse drugs and alcohol, experience more lifetime traumas, fail to complete high school, and qualify for at least one DSM diagnosis. As parents, they place their children at increased risk for abuse and neglect and overall maldevelopment. Evidence of immune system dysfunction as well as evidence for increased levels of catecholamines has been demonstrated. Abused females have been

seen to have significantly higher levels of somatic symptoms at several assessment points and reported more medical visits, more major illnesses and hospitalizations than comparison females.

Childhood sexual abuse tends to present with multiple physical and mental symptoms later in life especially during the teen years. Eliciting thorough history may help diagnose and treat these patients.

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