Fostering Resiliency in Patients with Adverse Childhood Experiences

A Master’s project submitted in partial fulfillment of the requirements for the degree of

MASTERS OF NURSING

By

Jenatte Clark

WASHINGTON STATE UNIVERSITY – SPOKANE, WA

College of Nursing

December, 2012
To the Faculty of Washington State University:

The members of the Committee appointed to examine the master's project of

JENATTE CLARK find it satisfactory and recommend that it be accepted.

Chair – Ruth Bindler

Janet Lohan

Laura Hahn
Fostering Resiliency in Patients with Adverse Childhood Experiences

Abstract

Chair: Ruth Bindler, PhD, RNC

Recent studies have discovered strong relationships between adverse childhood experiences (ACE) and childhood neurobiological development, adult health, and mortality. Yet, researchers have also documented remarkable levels of resiliency in children who have experienced childhood maltreatment and trauma. This article discusses the findings from the original ACE study, reviews the stress response and neurobiological toll of abuse and neglect on childhood development, and discusses the key factors that foster resiliency in children. An algorithm is provided to aid nurses in the development of appropriate care plans and the promotion of resiliency in patients with adverse childhood experiences.

Key Words: Adverse childhood experiences, childhood maltreatment, childhood trauma, child abuse, child neglect, neurobiological development, resiliency, nursing.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>3</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>5</td>
</tr>
<tr>
<td>THEORETICAL FRAMEWORK</td>
<td>6</td>
</tr>
<tr>
<td>LITERATURE REVIEW</td>
<td></td>
</tr>
<tr>
<td>ACE STUDY</td>
<td>9</td>
</tr>
<tr>
<td>STRESS RESPONSE AND NEUROBIOLOGICAL DEVELOPMENT</td>
<td>10</td>
</tr>
<tr>
<td>RESILIENCY</td>
<td>13</td>
</tr>
<tr>
<td>DISCUSSION</td>
<td>14</td>
</tr>
<tr>
<td>SIGNIFICANCE TO NURSING</td>
<td>15</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>19</td>
</tr>
</tbody>
</table>

List of Tables and Figures:

Table 1. COMMONLY USED SCREENING TOOLS TO ASSESS FOR TRAUMA    | 22    |

Figure 1. THE NEUMAN SYSTEMS MODEL                             | 23    |

Figure 2. POTENTIAL INFLUENCES THROUGHOUT THE LIFESPAN         | 24    |

Figure 3. THE RESILIENCY WHEEL                                  | 25    |

Figure 4. NURSING CARE PLAN ALGORITHM                          | 26    |
Fostering Resiliency in Patients with Adverse Childhood Experiences

Introduction:

The prevalence of child maltreatment in the United States is alarmingly high. The most recent national survey by the United States Department of Health and Human Services (USDHHS) estimates that 695,000 children were victims of abuse or neglect during the financial fiscal year of 2010 (USDHHS, 2010). Of this number, 78.3% suffered neglect, 17.6% suffered physical abuse, and 9.2% suffered from sexual abuse (USDHHS, 2010). Of the victims, 44.8% were white, 21.9% African-American, 21.4% Hispanic, and 11.9% were from other ethnicities (USDHHS, 2010). Victims in the age group of birth to one year had the largest prevalence rate of maltreatment, at 20.6 per 1,000 children of the same age in the national population (USDHHS, 2010). It is realistic to believe that the estimated number of victims is much higher due to the amount of unnoticed or unreported cases of abuse or neglect. The most tragic consequence of child maltreatment is death. It is estimated that 1,560 children died as a direct result of abuse or neglect during 2010 (USDHHS, 2010).

Recent studies have discovered a strong relationship between adverse childhood experiences (ACEs) and adult health and mortality. It has also been found that child maltreatment is a prevalent problem that has long term devastating consequences to the development of the affected child, including brain growth and functioning (Wilson, Hansen, & Li, 2011). As a child’s brain develops, there are “sensitive periods” of development in which external influences affect the brain’s ability to develop certain capacities in the future (Wilson, Hansen, & Li, 2011, p. 90). Exposure to stressful events during childhood development has consistently been shown to produce long-lasting alteration in the hypothalamic-pituitary-adrenal (HPA) axis, increasing vulnerability to diseases, such as post-traumatic stress disorder and other mood and anxiety disorders (Gillespie, Phifer, Bradley, & Ressler, 2009). Converging evidence from neurobiology and epidemiology suggests that early life adverse experiences cause enduring brain dysfunction that affect both health and quality of life throughout the lifespan (Anda et al., 2006). Yet, researchers have also documented remarkable levels of resiliency in children who have
experienced adverse life events. What promotes the development of resiliency in these children? What can we do as nurses to foster that development?

Statement of the Purpose

This article will discuss the findings from the original ACE study, review the stress response and neurobiological toll of abuse and neglect on childhood development, and discuss the key factors that foster resiliency in children. It will conclude with suggestions on how to incorporate this knowledge into the nursing care of patients who have suffered from adverse childhood experiences.

Theoretical Framework

The theoretical framework used to understand the importance of health promotion and disease prevention in children and adults with adverse childhood experiences is the Betty Neuman Systems Model. The Neuman Systems Model, developed in 1972, is a middle range nursing theory that provides a comprehensive holistic model for nursing practice. The model focuses on the response of a patient to actual and potential stressors.

In the Neuman Systems Model the client system is composed of five variables: physiological, psychological, sociocultural, developmental, and spiritual. Each variable is a subpart of all parts and therefore all are interconnected with each other. For example, a disruption within the psychological variable can have a significant impact on the other variables, such as the physiological, sociocultural, and spiritual. The environment of the client is an open system that is composed of both internal and external forces surrounding the client, influencing and being influenced by the client at any point in time (Neuman & Fawcett, 2011). Health is defined as a continuum with wellness and illness at opposite ends. Wellness is the condition in which all system parts are in harmony with the whole system of the client. Illness indicates disharmony within the client system.
Betty Neuman created a detailed diagram to illustrate her model (refer to Figure 1). At the center of the model is the patient’s core, represented as a circle. The patient is surrounded by five lines of defense that represent the body’s normal defenses against environmental stressors. Tension-producing stimuli, known as stressors, have the potential to cause system instability by invading the body’s lines of defense (Neuman & Fawcett, 2011). Stressors can be intrapersonal, interpersonal, or extrapersonal and have the potential for positive or negative outcomes (Neuman & Fawcett, 2011). The outer most circle is called the flexible line of defense. This line is flexible because it can move inward toward the patient core or outward creating a larger buffer for the patient when he or she is participating in health promoting or healthy coping activities. The next line closer to the core is the normal line of defense. This line represents the systems standard of defense, in which further stressor penetration beyond this line results in symptomatic illness. The larger the buffer between the flexible line of defense and the normal line of defense, the stronger the patient’s defenses are in the prevention of illness. The location of the normal line of defense is the long term result of previous system behaviors, coping patterns, and lifestyle factors (Neuman & Fawcett, 2011). The normal line of defense is considered dynamic due to its ability to expand or contract over time (Neuman & Fawcett, 2011). Therefore, after a period of time, this line can become more resilient and remain stabilized when dealing with life stresses. The lines of resistance are closest to the patient core and provide natural defenses against the intruding stressor. For example, the body’s natural mobilization of white blood cells during the activation of the immune system happens in response to infectious invasion into the patient’s system. When the system fails to respond to available resources provided by the lines of resistance, further system wellness decreases and may result in death (Neuman & Fawcett, 2011).

The Neuman Systems Model provides a holistic perspective for nurses to recognize current or potential stressors and intervene by developing care plans to overcome these threats. Betty Neuman incorporates the use of primary, secondary, and tertiary nursing interventions to best attain, retain, and maintain optimal overall wellness of the client (Neuman & Fawcett, 2011). Focusing nursing
interventions on preventing disease will result in the flexible line of defense moving further away from
the patient’s core, and therefore prevent subsequent illness and health disturbances. Building resiliency in
children with adverse life experiences will strengthen the normal line of defense and provide greater
stability within the entire system. Throughout this paper the Neuman Systems Model can be used as a
lens with which to review the current literature regarding adverse childhood experiences, childhood
resiliency, and appropriate nursing interventions.
Literature Review

Methods

A literature search was conducted by using the Google Scholar program, Ebsco Host, and Pub Med search engines. All of these programs were accessed through the internet. Research material related to adverse childhood experiences was obtained by using the key terms “ACE study”, “adverse childhood experiences”, “childhood maltreatment”, “child abuse”, “long term effects”, “Felitti”, and “Anda.” Research material related to neurobiology of childhood development was obtained by using the key terms “childhood maltreatment”, “complex trauma”, “neurobiology”, “child development”, “childhood abuse”, “stress response”, and “cortisol.” Research material related to resiliency was collected by using the key terms “resiliency”, “childhood development”, “child abuse”, and “adaptation.” The concepts reviewed included long term effects of adverse childhood experiences on adult health, substance abuse, mental health, stress response and child development, resiliency, and nursing care.

ACE Study

The ACE study conducted by Felitti et al. (1998), began as a weight loss study at a Kaiser Permanente health maintenance organization in San Diego, California. During this study it was found that many participants with a history of childhood abuse either dropped out of the weight loss program or quickly regained the lost weight. This phenomenon sparked the large scale epidemiological study that examined the effects of traumatic childhood experiences on behaviors related to the leading causes of health problems, disabilities, and death in the United States. The ACE study examined 17,337 participants who were mostly Caucasian, middle class adults with a median age of 57 years. The participants completed a questionnaire about adverse childhood experiences and a standardized medical evaluation at a large health maintenance organization (HMO). Seven categories of adverse childhood experiences were studied: psychological, physical, or sexual abuse; violence against mother or stepmother; living with household members who were substance abusers, mentally ill or suicidal, or ever been imprisoned (Felitti
et al., 1998). Respondents were considered exposed to a category if they responded yes to one or more of the questions in that category. At the end of the questionnaire the number of categories of exposure was added up to give the respondent his or her “ACE score.” The ACE score (range: 0-7) was compared to measures of adult risk behavior, health status, and disease (Felitti et al., 1998).

The results were staggering. More than half of respondents reported at least one category, and one-fourth reported two or more categories, of adverse childhood exposures (Felitti et al., 1998). Participants who experienced four or more categories of adverse childhood exposures, compared to those with no exposures, “had 4- to 12-fold increase in health risks for alcoholism, drug abuse, depression, and suicide attempt; a 2- to 4-fold increase in smoking, poor self-rated health, ≥50 sexual intercourse partners, and sexually transmitted infections; and a 1.4- to 1.6-fold increase in physical inactivity and severe obesity” (Felitti et al, 1998, p. 245). A significant and graded relationship was found between the number of categories of adverse childhood exposures to the presence of adult diseases such as ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease (Felitti et al., 1998). These findings suggested that the impact of adverse childhood exposures have a strong cumulative effect on adult health status (Felitti et al., 1998). Felitti and Anda developed a pyramid (refer to Figure 2) to illustrate the process in which childhood adversities can lead to social, emotional, and cognitive impairment; adoption of health-risk behaviors; disease and disability; and early death (1998).

**Stress Response and Neurobiological Development**

The term complex trauma can be described as the problem of children’s exposure to multiple or prolonged traumatic events and the impact of this exposure on their development (Cook, et al., 2007). Complex trauma usually is a consequence of prolonged childhood abuse and neglect; however, it can also be a result of other traumatic events, such as witnessing domestic violence, ethnic cleansing, or war (Cook, et al., 2007). Exposure to complex trauma can be devastating in childhood development, resulting in stress response alteration and other neurobiological impairments.
The human stress response is a complex neuroendocrine cascade of events that is commonly referred to as the “fight or flight response.” The stress response naturally occurs in two phases. In the first phase, immediately upon detection of a stressful stimulus, norepinephrine is released from nerve terminals of the sympathetic nervous system and epinephrine is released from the adrenal medulla into the general circulation (Neigh, Gillespie, & Nemeroff, 2009). The release of these potent catecholamines stimulates the hypothalamus, activating the second phase of the stress response which encompasses the entire chain of events from the hypothalamic-pituitary-adrenal (HPA) axis. When stimulated, the hypothalamus secretes corticotrophin-releasing-factor (CRF), which is integral to the stress response as it affects brain functioning by increasing arousal, alertness, attention, and readiness, which can combine to create anxiety-like behavior (Vermetten & Bremner, 2002). CRF also serves to stimulate the pituitary gland to produce adrenocorticotropic hormone (ACTH) to be released into the general circulation. ACTH is transported to the adrenal cortex where it stimulates the production and release of the glucocorticoids cortisol and corticosterone (Wilson, Hanson, & Li, 2011). In the acute setting, cortisol aids in the stress response by producing hyperarousal behavior and stimulating gluconeogenesis for the regulation of energy utilization (Vermetten & Bremner, 2002). Once the stressor is removed, the HPA axis is reduced through negative feedback from the stimulation of glucocorticoid receptors within the hippocampus, hypothalamus, and anterior pituitary (Neigh, Gillespie, & Nemeroff, 2009). Exposure to stressful events during childhood development has consistently been shown to produce long-lasting alteration in the hypothalamic-pituitary-adrenal (HPA) axis, which may increase vulnerability to disease (Gillespie, Phifer, Bradley, & Ressler, 2009). If the stress response becomes chronic due to repeated exposure to stressors, the result is a sustained increase in the level of stress hormones and the initiation of pathological changes across multiple physiological systems, resulting in stress-related diseases (Neigh, Gillespie, & Nemeroff, 2009).

Converging evidence from neurobiology and epidemiology suggests that early life stress such as abuse and related adverse experiences cause enduring brain dysfunction that affect both health and quality
of life throughout the lifespan (Anda et al., 2006). The organization and functional capacity of the human brain is not fully developed at birth and depends upon an extraordinary sequence of developmental and environmental life experiences that influence the expression of the genome (Perry and Pollard, 1998). Unfortunately, this sequence is vulnerable to extreme, repetitive, or abnormal patterns of stress during critical periods of childhood brain development that can impair the activity of major neuroregulatory systems, with profound and lasting neurobehavioral consequences (Teicher, 2000). For example, the prefrontal cortex is most susceptible to the aversive effects of the traumatic stress response during childhood and adolescence, as this region of the brain is still undergoing neurogenesis, synaptic pruning, and myelination (Wilson, Hansen, & Li, 2011). The myelination process is critical to effective information exchange between the prefrontal cortex and other brain regions. The prefrontal cortex provides individuals with their attention, concentration, and executive functioning capacities; therefore it is essential that this area of the brain develops properly in order to communicate and coordinate other brain functions (Wilson, Hansen, & Li, 2011). Researchers have also found a correlation between hippocampal damage following childhood trauma. For example, Bremner et al. found that women with a history of childhood sexual abuse and post-traumatic stress disorder had reduced hippocampal volume and decreased hippocampal activity during verbal declarative memory tasks (2003). Hippocampal dysfunction was also found to be associated with impaired memory retrieval (Bremner et al., 2003). In addition, deprivation of developmentally appropriate experiences, as seen with neglect, may reduce neuronal activity, resulting in a generalized decrease in neurotrophin production, synaptic connectivity, and neuronal survival; therefore causing profound abnormalities in brain organization and structure (Perry 2002). Childhood exposure to abuse and other related adverse experiences during critical periods of neurodevelopment can lead to changes in the structure and physiology of the brain that expectedly would affect multiple human functions and behaviors (Anda et al., 2006).
Resiliency

The concept of resiliency can be defined as a phenomenon characterized by positive outcomes in spite of serious threats to adaptation or development (Masten, 2001); or in other words, the ability of an individual to bounce back from adversities (Henderson, Benard, & Sharp-Light, 2007). Resiliency research began in the 1970s and refers to a body of international lifespan developmental studies that followed children born into traumatic environments such as families where parents were mentally ill, alcoholic, abusive, or criminal, or in communities that were poverty stricken or devastated by war. The findings from these long term studies revealed that at least 50% and often closer to 70% of youth growing up in high risk conditions did develop social competence despite exposure to severe stress and did overcome the odds to lead successful lives (Henderson, Benard, & Sharp-Light, 2007). The surprising feature among these pioneer studies was that resilience in children at risk was shown to be common and a result of normal human adaptation mechanisms (Bonanno & Mancini, 2008). The conclusion that resiliency is a result of ordinary rather that extraordinary processes offers a more positive outlook on human development and adaptation, as well as direction for practice aimed at enhancing positive outcomes (Masten, 2001).

This evidence raises the question: What promotes the development of resiliency? And how can we foster the development of resiliency in children at risk? According to Nan Henderson and Bonnie Benard, resiliency researchers and authors,

we are all born with innate resiliency, with the capacity to develop the traits commonly found in resilient survivors: social competence (responsiveness, cultural flexibility, empathy, caring, communication skills, and a sense of humor); problem-solving (planning, help-seeking, critical and creative thinking); autonomy (sense of identity, self-efficacy, self-awareness, task-mastery, and adaptive distancing from negative messages and conditions); and a sense of purpose and belief in a bright future (goal direction, educational aspirations, optimism, faith, and spiritual connectedness). (Henderson, Benard, & Sharp-Light, 2007, p. 3)
Children become resilient by drawing upon these innate internal resources and by engaging in other people, organizations, and activities that support and encourage the development of resilience (Henderson, Benard, & Sharp-Light, 2007). These positive internal and external conditions, called protective factors, can be more powerful in a person’s life than risks, traumas, or stress (Henderson, Benard, & Sharp-Light, 2007).

The fostering of resiliency operates at the level of human relationships, beliefs, and opportunities empowerment that can be a part of every interaction and intervention (Henderson, Benard, & Sharp-Light, 2007). The primary goal in fostering resiliency in children or adults with a history of adverse childhood experiences is to meet the basic human needs of caring, connectedness, respect, challenge, power, and meaning (Henderson, Benard, & Sharp-Light, 2007). The secondary goal is to empower them to become socially competent citizens who have a sense of their own identity and efficacy, who are able to make decisions, set goals, and believe in their future (Henderson, Benard, & Sharp-Light, 2007). Nan Henderson developed a model, called the Resiliency Wheel, to aid practitioners as they promote and foster resiliency in children at risk (refer to Figure 3). The model has six key elements that are used to mitigate risk and build resiliency in the environment. These key elements are the following: provide caring and support; set and communicate high expectations; provide opportunities for meaningful participation; increase pro-social bonding; set clear, consistent boundaries; and teach needed life skills (Henderson, Benard, & Sharp-Light, 2007). The concept suggested by the Resiliency Wheel is that providing positive conditions for children at risk, such as supportive adult relationships, life tools, and opportunities will promote their natural ability to become resilient and bounce back from their adversities.

Discussion

The prominence of child maltreatment manifests at an alarmingly high rate. After reviewing the literature it is evident that adverse childhood experiences can have devastating and lasting effects on overall health and quality of life. With the increase of exposures to different categories of abuse, there is a
significant increase in negative adult health outcomes. It has been found that exposure to abuse and neglect during critical periods of development can cause damaging effects to neurological brain development, affecting the brain structure and organization of brain functions. Despite the evidence of negative outcomes, some children with a history of childhood maltreatment exhibit resiliency and have positive outcomes. Children are capable of developing resiliency naturally, by drawing upon positive protective factors, such as supportive adult relationships, life tools, and opportunities that promote wellness. After reviewing the evidence of resiliency, the overall goal for developing interventions for a child with a history of maltreatment should be to promote wellness and decrease stress related diseases by fostering the child’s natural ability to become resilient.

Significance for Nursing Practice

Adverse childhood experiences affect the nursing profession in multiple ways. Nurses are faced with helping victims of abuse and neglect, whether it is immediately after a traumatic event or dealing with the repercussions of previous traumatic events. Nurses are usually able to develop trusting relationships with their patients and can be a positive influence and role model in many lives. Nurses take a holistic approach to patient assessment and care, and therefore are in an excellent position to screen for adverse childhood experiences, educate about available resources and health promotion, and foster resiliency and improved quality of life for children at risk.

The nursing assessment is a vital aspect of nursing care and is the basis for which nursing interventions are developed. When working with both children and adults, it is important to include a thorough childhood abuse history. A general psychosocial evaluation cannot be considered complete until childhood exposure to multiple kinds of abuse is assessed (Waite, Gerrity, & Arango, 2010). Because of the high prevalence of maltreatment, all patients need to be asked about abuse, rather than only questioning those with mental health diagnoses (Waite, Gerrity, & Arango, 2010). This can be done with a screening questionnaire tool or by asking in person. Refer to Table 1 for a list of commonly used
screening tools to assess for trauma. When inquiring about abuse, the nurse must be prepared to hear the patient’s history and respond appropriately, which may require training. When a patient discloses a positive history of any kind of abuse, the nurse should not feel pressured to collect all the details about the trauma (Waite, Gerrity, & Arango, 2010). It is most important to focus on the relationship with the patient than on the abuse and respond appropriately by validating the patient’s experience, which will communicate understanding and the nonjudgmental position of the nurse (Waite, Gerrity, & Arango, 2010). Among other professionals, nurses are mandated by law to report all evidence or suspicions of child abuse or neglect to Child Protective Services. This action will initiate further investigation from the government agency and appropriate actions will take place to protect the child if needed.

Using the information collected during the nursing assessment, the nurse is able to develop an individualized care plan with appropriate nursing interventions. One of the most important aspects of nursing care is the nurse’s role as the patient educator and advocate. By collaborating with other disciplines and assisting in the coordination of patient care services, nurses are able to promote overall health and wellbeing. When working with clients affected by trauma, it is imperative to have appropriate mental and behavioral health services in place for referrals before screening for adverse childhood experiences; therefore, nurses must be familiar with resources available for the client within his or her organization and the broader community (Waite, Gerrity, & Arango, 2010). Pamphlets summarizing this information can be helpful to both the clinician and patient (Waite, Gerrity, & Arango, 2010). However, it is important to remember that not everyone will want therapy. It is best not to insist that the patient must have treatment of any kind; however, it is important that the nurse simply describes the services that are available for the patient (Waite, Gerrity, & Arango, 2010). By educating the patient about all of the available resources, the patient becomes informed and can independently make the decision to pursue further treatment or therapy. The nurse can further educate the patient regarding healthy life choices, such as exercise, weight control, nutrition, and prevention of stress related diseases, such as heart disease, obesity, diabetes, substance abuse, anxiety, and depression. By focusing nursing interventions on patient
education and disease prevention, the flexible line of defense in the Neuman Systems Model will move further away from the patient’s core, and therefore aid in the prevention of subsequent illness and health disturbances.

Lastly, the nurse can foster resiliency in a patient by being a positive influence in the patient’s life. The nurse is able to communicate the resiliency attitude through words and actions, which say: “You have what it takes to get through this.” (Henderson, Benard, & Sharp-Light, 2007, p. 9). Although most nurses are not able to have a long term relationship with their patients, the limited amount of time that is available can be used to its full potential in building resiliency. By focusing on the patient’s strengths, setting high expectations, and providing opportunities for participation in their own care, the nurse can provide positive encouragement for the patient. Using therapeutic communication and active listening, the nurse can communicate genuine sympathy and unconditional care and support. Nurses can be excellent educators by teaching healthy life skills, such as stress management, positive self-talk, healthy eating patterns, regular exercise, setting clear boundaries with others, and developing short and long term goals. In addition, the nurse can refer the patient to organizations, behavioral health services, social workers, therapists, and/or counselors within the community that are specially trained in childhood development and resiliency. This nursing intervention alone is the most beneficial to promoting resiliency as a nurse, because it directs the patient and/or parents to the resources that provide the best environmental conditions for resiliency development. By building resiliency in children with adverse life experiences, the normal line of defense in the Neuman Systems Model will be strengthened and therefore will provide greater stability within the entire body system.

An algorithm is provided to aid nurses in the development of care plans when working with patients with a history of childhood trauma (refer to Figure 4). This algorithm, entitled “Nursing care plan algorithm for fostering resiliency in patients with adverse childhood experience,” blends the nursing care plan process with the concepts from the Resiliency Wheel (Henderson, Benard, & Sharp-Light, 2007) to create a visual tool to assist nurses. This tool leads nurses through the critical steps when caring for a
patient with a history of trauma. The algorithm can serve as a reminder to exemplify the resiliency attitude by providing appropriate environmental conditions that foster the development of resiliency.

Summary

The literature review provided in this article acknowledges the association between adverse life experiences and negative adult health outcomes including neurobiological development. Research in resiliency has shown that despite childhood adversities, some children bounce back and develop into stable adults, revealing that all humans are born with innate abilities to develop resiliency. However, despite the amount of research available on these topics among medical, neurological, and behavioral sciences, there is a lack of research within the general nursing literature. There is a need for further research on strategies that address effective approaches in nursing practice for the promotion of health and resiliency in children and adults with a history of childhood maltreatment. It would be very interesting to research the participants in the original ACE study who did not develop adult stress related diseases or other chronic diseases, to look at what environmental factors aided in their resiliency.

An algorithm was created to assist nurses in the development of an appropriate care plan when working with a patient with a history of current or past childhood experiences. The algorithm can also serve as a reminder for nurses to exemplify the resiliency attitude to all patients by proving care and support, communicating high expectations, setting clear boundaries, increasing social bonding, providing opportunities for participation in care, and teaching life skills. Collaboration among clinicians, social service agencies, and policy makers must continue to work towards preventing and addressing childhood abuse and neglect.
References


### Tables

<table>
<thead>
<tr>
<th>Screening Tool</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stressful Life Events Screening Questionnaire</td>
<td>A 26-question standardized instrument measuring exposure to all possible kinds of traumas, including sexual and physical assault, witnessing violence, combat trauma, illness, accidents, traumatic deaths, and natural disasters.</td>
</tr>
<tr>
<td>(Goodman, Corcoran, Turner, Yuan, &amp; Green, 1998).</td>
<td></td>
</tr>
<tr>
<td>Primary Care PTSD Screen</td>
<td>A 4-question instrument measuring symptoms of trauma during the past month.</td>
</tr>
<tr>
<td>(Prins et al., 1999).</td>
<td></td>
</tr>
<tr>
<td>Life Stressor Checklist-Revised (Wolfe &amp; Kimmerling, 1997).</td>
<td>A 30-question instrument measuring lifetime exposure to stressful events.</td>
</tr>
<tr>
<td>Short Form of the PTSD Checklist-Civilian Version</td>
<td>A 6-item instrument empirically derived from the 17 item PTSD Checklist-Civilian Version for use in primary care settings.</td>
</tr>
<tr>
<td>(Lang &amp; Stein, 2005).</td>
<td></td>
</tr>
<tr>
<td>Childhood Trauma Questionnaire-Short Form (Bernstein &amp; Fink, 1998).</td>
<td>A 28-item retrospective self-report questionnaire designed to assess five dimensions of childhood maltreatment.</td>
</tr>
</tbody>
</table>

*Table 1. Commonly used screening tools to assess for trauma. Adapted from Waite, Gerrity, & Arango (2010, p. 56).*
Figure 1. The Neuman Systems Model. Adapted from Neuman & Fawcett (2011).
Figure 2. Potential influences throughout the lifespan of adverse childhood experiences. Adapted from Felitti & Anda (1998).
Figure 3. The Resiliency Wheel. Adapted from Henderson, Benard, & Sharp-Light (2007, p. 10).
Figure 4. Nursing care plan algorithm for fostering resiliency in patients with adverse childhood experiences. Data from Henderson, Benard, & Sharp-Light (2007).