

## Childhood Trauma and Adult Self-Reported Depression

**Abstract:** *Adverse childhood experiences (ACEs) are plentiful within our society however the consequences that stem from these experiences are not often addressed particularly their impact on mental wellness. Given that ACEs have negative neurodevelopmental influences that persist over the lifespan this paper will present findings from a study that examined the relationship between ACEs and self-reported depression among low-income ethnic minority populations who live in an urban setting. Findings highlight the importance of research on the prevalence of and risks for multiple types of childhood maltreatment, particularly in the somewhat neglected area of self-reported depression. Statistical significance was found for most ACEs and clinical significance was noted for several ACEs. Efforts to mitigate and prevent depression will likely benefit from preventing ACEs and treating individuals exposed to them. Discernment that ACEs lead to risk behaviors that subsequently increase the likelihood of depression could provide insight that can improve prevention efforts.*

**Key Words:** *Adverse Childhood Experiences, Depression, Nurse Managed Health Care Center*

The pervasiveness of childhood trauma (e.g., abuse, neglect, and household dysfunction), the single most important public health challenge in the United States (US), has strongly demonstrated that it is a reliable marker in foretelling the future impact of a multitude of social ills (Felitti et al., 1998). Although theorists (Beck, 1967; Bowlby, 1973, 1980) have long perceived that adverse childhood experiences (ACEs) may enhance vulnerability to the development of psychopathology, specifically depression across the lifespan (Kendler, Gardner, & Prescott, 2006; Maercker, Michael, Fehm, Becker, & Margraf, 2004; Spatz-Widom, DuMont, & Czaja, 2007), this link is infrequently acknowledged in the general nursing literature.

Data from the landmark Adverse Childhood Experiences (ACE) Study, a collaborative effort between Kaiser Permanente and the Centers for Disease Control and Prevention provided useful data for many health clinicians, particularly nurses. This study tracked the effects of childhood trauma for about 17,000 predominately middle-class European American individuals to determine the relationship between

childhood experiences and adult health. Evidence from this decade long study demonstrates that one of their underlying hypotheses, traumatic childhood experiences have negative neurodevelopmental influences that persist over the lifespan, was strongly supported, particularly as it relates to increased risk of depression (Felitti et al., 1998).

The purpose of this paper is to present findings from part of a larger study that replicated the original ACEs Study in an urban population of majority ethnic minority populations. This paper will (i) describe the demographic characteristics of the sample, (ii) identify the types of trauma individuals were exposure to, and (iii) examine the relationship between ACEs and self-reported depression among a low-income community sample of people who live in an urban setting.

Examining the prevalence of self-reported depression is important since research has found that perceived health status and number of chronic conditions are two prominent factors associated with self-reported depression (Bazargan, Bazargan-Hejazi, & Baker, 2005). Moreover, ethnic minority and underserved low-income groups have low rates of seeking care for depression and low rates of receiving high quality treatment when compared to European American populations, often delaying intervention until symptoms and/or functional impairment reach intolerable levels (Van Voorhees et al., 2006). In many communities where at-risk populations live, stigma persists and disparities in access to culturally sensitive care and intervention for depression and varied forms of trauma continue. Neither the biomedical theories that champion the use of antidepressants nor the cognitive distortion model intrinsic in cognitive behavioral therapy make any link between trauma and the onset of depression (Hagen, Wong-Wylie, & Pijl-Zieber, 2010).

It is critical for health care providers in primary care settings to educate and provide their patients with primary prevention strategies, services that generate early recognition of depression, and appropriate elicitation of patient depressive symptoms. Research findings have shown that there are many opportunities that have been missed for patient identification in clinical settings. Primary care providers are often the sole contacts for more than 50% of patients with mental health concerns, particularly minority populations (Andi et al., 2008). Therefore, the operationalization of addressing mental and behavioral concerns in the health service delivery system is important (use of referrals, co-located, or integrated mental



health services). Given that trauma may be the root cause of depression for some individuals, working with a competent, resourceful provider can mitigate the typical process of overlooking undiagnosed trauma when using the biomedical model. Missed opportunities for recognition of ACEs can also occur when using reductionistic worldviews that have a tendency to govern the mental health system (Hagen et al., 2010).

It is also critical that more visible research regarding ACEs and depression reach nurses who provide a large amount of front line health care, particularly with people from low-income urban areas (Naylor & Kurtzman, 2010). If nurses who care for individuals in communities who suffer from a condition related to childhood abusive events are unaware of this link, they will likely not elicit an abuse history or make appropriate patient referrals. This is particularly disconcerting, since conditions associated with childhood abuse are burdensome to both patients and the health care systems (Arnow, Hart, Scott, Dea, O'Connell, & Taylor, 1999; Finestone, Stena, Davies, Stalker, Fry, & Koumanis, 2000; MacMillan et al., 2001). Integrating knowledge regarding ACEs into the care of adults who are experiencing mental and physical health problems is requisite if clinician-patient partnerships are to address treatment effectively and have positive outcomes.

## METHODOLOGY

Data were collected as part of a larger study with individuals who were patients at a nurse managed health care center (NMHCC) located in the northeast region of the US. This study was approved by the institutional review board (IRB) of the University. Data were collected through questionnaires and analyzed using quantitative measures supported by SPSS 18.0 for windows (SPSS Inc., Chicago, IL).

### Study Participants and Context

Participants of the larger study were recruited through two mechanisms: (i) patients who were 18 years of age and older received letters from the clinical nurse at the Center to inform them about the study including the aims of the study, contact information for the primary investigator if they were interested in taking part, gift card incentive, and estimated time to complete the questionnaires; and (ii) individuals were informed about the study on-site when they came to the healthcare center for services. A table with informational flyers was manned by research study personnel on average 40 hours weekly for one year. Once individuals informed the research personnel of their interest by phone or in-person a mutually agreed upon time was identified for them to complete the informed consent and the two questionnaires. Most often, participants completed the study material if they were already at the center. Individuals were informed that their participation was voluntary and their answers would be held in strictest confidence and would never become part of their medical records. About 3,000 adult patients receive standardized healthcare examinations annually at this NMHCC. Between April 2009 and April 2010, individuals were recruited if they met inclusion criteria which required them to be: (i) patients at the NMHCC; (ii) between 18 to 88 years of age; (iii) willing to voluntarily consent; (iv) able to speak English; and (v) willing to complete two questionnaires. On average it took patients 25 minutes to complete the questionnaires, and all participants who completed the study were given a \$10.00 gift card.

### Data Collection Instruments and Implementation

Two questionnaires, the *Family Health History* and *Health Appraisal* questionnaires, obtained from the CDC website were used to collect data for the larger study. The CDC approves use of both questionnaires and they are available in the public domain at <http://www.cdc.gov/ace/questionnaires.htm>. The questionnaires are not copyrighted and there are no fees for their use. The two questionnaires collected information on household dysfunction, childhood maltreatment, and many other socio-behavioral factors.

For example, the *Health Appraisal* questionnaire asks a series of questions covering each body system inquiring about current and previous health conditions as well as queries on mood/ emotional status that require a yes/no response. Sample questions include: "Do you have shortness of breath?" "Have you ever been a smoker?" "Have you ever had/ever been told that you have high blood pressure?" "Have you ever had a stroke or small stroke?" "Do you feel depressed?"

The *Family Health History* questionnaire mainly focuses on health behaviors and retrospective child abuse, neglect, and adversity. Nominal, ordinal and interval data was collected. Sample questions include: "How old were you when you had your first drink of alcohol other than a few sips?" "During your first 18 years of life did you live with anyone who was a problem drinker or alcoholic?" "About how many times have you used street drugs?" "How many close friends or relatives would help you with your emotional problems or feelings if you needed it?" "While you were growing up, during your first 18 years of life, how true were each of the following statements: You didn't have enough to eat? You knew there was someone to take care of you and protect you? People in your family called you things like "lazy" or "ugly"? Your parents were too drunk or high to take care of the family? There was someone in your family who helped you feel important or special? You had to wear dirty clothes?"

For this paper data findings were examined from one question from the *Health Appraisal* questionnaire regarding depression. Participants who answered "yes" to the following question on the *Health Appraisal* questionnaire were classified as having self-reported depression: "Have you ever had or do you now have depression?" Questions on the *Family Health History* questionnaire were examined related to abuse, neglect, and family adversity (questions 28a to 67e). Responses from the *Family Health History* questionnaire provided an ACE score.

**Definition of the Ten ACEs.** All questions about ACEs on the questionnaire were framed about childhood experiences during the person's first 18 years of life. In accordance to the original ACE study, ten indicators were examined and defined below: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, battered mother, household substance abuse, mental illness in the household, parental separation or divorce, and criminal household member (Dong, Dube, Felti, Giles, & Anda, 2003).

- (1) *Emotional abuse (EA-ACE1)*. EA was characterized as confirmatory when participants selected often or very often to either of these two questions: "How often did a parent, stepparent, or adult living in your home swear at you, insult you, or put you down?" and "How often did a parent, stepparent, or adult living in your home act in a way that made you afraid that you might be physically hurt?"
- (2) *Physical abuse (PA-ACE2)*. PA was classified as affirmative if the individual's response was either often or very often by the following two questions: "Sometimes parents or other adults hurt children. While you were growing up, that is, in your first 18 years of life, how often did a parent, stepparent, or adult living in your home (i) push, grab, slap, or throw something at you or (ii) hit you so hard that you had marks or were injured?"
- (3) *Sexual abuse (SA-ACE3)*. SA was appraised as positive if individuals' responded yes to any of the following four questions. Had an adult or someone who was at least five years older than themselves ever: (i) touched or fondled their body in a sexual



way; (ii) had them touch his or her body in a sexual way; (iii) attempted to have any type of sexual intercourse with them (oral, anal, or vaginal); or (iv) actually had any type of sexual intercourse with them (oral, anal, or vaginal).

- (4) *Emotional neglect (EN-ACE4)*. EN was evaluated as positive if individuals scored moderate to extreme when responding to the following five statements: (i) "There was someone in my family who helped me feel important or special"; (ii) "I felt loved"; (iii) "People in my family looked out for each other"; (iv) "People in my family felt close to each other"; and (v) "My family was a source of strength and support."
- (5) *Physical neglect (PN-ACE5)*. PN was considered affirmative if an individual scored moderate to extreme when answering the following 5 questions: (i) "I didn't have enough to eat"; (ii) "I knew there was someone there to take care of me and protect me"; (iii) "My parents were too drunk or too high to take care of me"; (iv) "I had to wear dirty clothes"; and (v) "There was someone to take me to the doctor if I needed it."
- (6) *Battered mother (BM-ACE6)*. A BM was defined by women who responded with sometimes, often, or very often to at least one of the first two questions or any response other than never to either of the last two questions: "While you were growing up in your first 18 years of life, how often did your father (or stepfather) or mother's boyfriend do any of these things to your mother (or stepmother): (i) push, grab, slap, or throw something at her; (ii) kick, bite, hit her with a fist, or hit her with something hard; (iii) repeatedly hit her for at least a few minutes; or (iv) threaten her with a knife or gun or use a knife or gun to hurt her?"
- (7) *Household substance abuse (HAS-ACE7)*. HAS was determined to be affirmative if respondents lived with a problem drinker/alcoholic or anyone who used street drugs during the first 18 years of their life.
- (8) *Mental illness in household (MIH-ACE8)*. MIH was positively evaluated if anyone in the household was depressed/ mentally ill or had attempted suicide during respondent's childhood.
- (9) *Parental separation or divorce (PS/D-ACE9)*. PS/D was described as positive if the participant replied "yes" to the question "Were your parents ever separated or divorced?"
- (10) *Criminal household member (CHM-ACE10)*. CHM was confirmed if the participant identified that someone in

their household during the first 18 years of their life had gone to prison (<http://www.cdc.gov/nccdphp/ace/questionnaires.htm>; Dong et al., 2003).

As noted above, the abuse category is made up of ACE questions 1, 2, 3 (ACE 1 emotional abuse; ACE 2 physical abuse; ACE 3 sexual abuse); the neglect category is made up of ACE questions 4, 5 (ACE 4 emotional neglect; ACE 5 physical neglect); and the household dysfunction category is made up of ACE questions 6, 7, 8, 9, 10 (ACE 6 parental separation/divorce; ACE 7 mother treated violently; ACE8 living with a substance abuser; ACE 9 living with someone who was depressed, mentally ill, and/or attempted suicide; ACE 10 living with a person who went to prison). The total number of ACEs experienced by participants became their ACE score, which was used to calculate the cumulative number of multiple ACEs.

## STATISTICAL ANALYSIS

All variables were dichotomous ('yes' or 'no' responses) and included self-reported depression and the 10 ACE categories. Separate 2 X 2 Chi-Square tests of Independence were calculated to determine the relationship between self-reported depression and each ACE category. Odds ratios (OR) were calculated as effect size indices to aid in the interpretation of the findings to examine strength of association between self-reported depression and ACEs. Resampling tests, with 10,000 replications were calculated using Monte Carlo estimates on the Chi-Square tests and Bootstrapping estimations with replacement for OR to estimate confidence intervals of the parameters. Significance level of 0.05 was used for all tests and confidence intervals supported examination of minimal clinical significance for each ACE and self-reported.

## Results

Demographic characteristics of the sample included 801 participants. There were 647 women (top 3 categories: 86.7% Black, 6.3% other, and 4% white) 154 men (top 3 categories: 74.7% Black, 14.3 % white, and 6.5% other); age range 19 to 82 years old; most were high school graduates or had some college/technical school; the majority were never married; and more than one-half were not employed outside the home. See Table 1 for detailed demographic information. Five individuals had missing data. Of the 796 valid cases, the number of participants who responded 'yes' to any of the ACEs one to ten and 'yes' to self-reported depression are noted in Table 2. When examining the relationship between all ACEs and self-

**Table 1. Participant Demographics**

N = 801	Females 80.8 % (N= 647 )			Males 19.2 % (N = 154)		
Race	Black	White	Other	Black	White	Other
	560	26	56	116	22	18
Education	< HS	HS Graduate	Beyond HS Graduate	< HS	HS Graduate	Beyond HS Graduate
	147	177	319	39	49	68
Employment	Part Time	Full Time	Not-employed	Part Time	Full Time	Not-employed
	131	153	346	25	32	96
Age	<25	26-45	45+	<25	26-45	45+
	149	315	181	12	66	78
Marital Status	Single	Married	Divorced	Single	Married	Divorced
	521	76	47	105	34	17



Table 2. Chi-Square Tests of Independence, Phi Coefficient, Monte Carlo Resampling 95% Confidence Intervals (CI), and Bootstrapped Confidence Intervals for Odds Ratios (OR) for Self-Reported Depression Across ACEs

ACE	N Number of sample participants with each ACE	$\chi^2(1, N=796)$	Phi	Monte Carlo* Resampling 95% CI for p- value (LL, UL)	Bootstrapped* OR	Bootstrapped CI for OR*	
						LL	UL
1	92	31.109 <sup>a</sup>	0.198	(<0.001, <0.001)	2.988	2.031	4.584
2	187	52.24 <sup>a</sup>	0.256	(<0.001, <0.001)	2.958	2.195	3.986
3	162	44.58 <sup>a</sup>	0.237	(<0.001, <0.001)	2.823	2.072	3.847
4	262	40.662 <sup>a</sup>	0.226	(<0.001, <0.001)	2.569	1.916	3.443
5	143	2.113	0.052	(0.153, 0.168)	1.240	0.928	1.658
6	226	5.492 <sup>c</sup>	0.083	(<0.05, <0.05)	1.403	1.057	1.864
7	121	15.473 <sup>a</sup>	0.140	(<0.001, <0.001)	1.897	1.376	2.615
8	236	40.941 <sup>a</sup>	0.227	(<0.001, <0.001)	2.524	1.896	3.360
9	190	62.222 <sup>a</sup>	0.280	(<0.001, <0.001)	3.300	2.440	4.463
10	147	2.718	0.059	(0.099, 0.111)	1.276	0.955	1.705

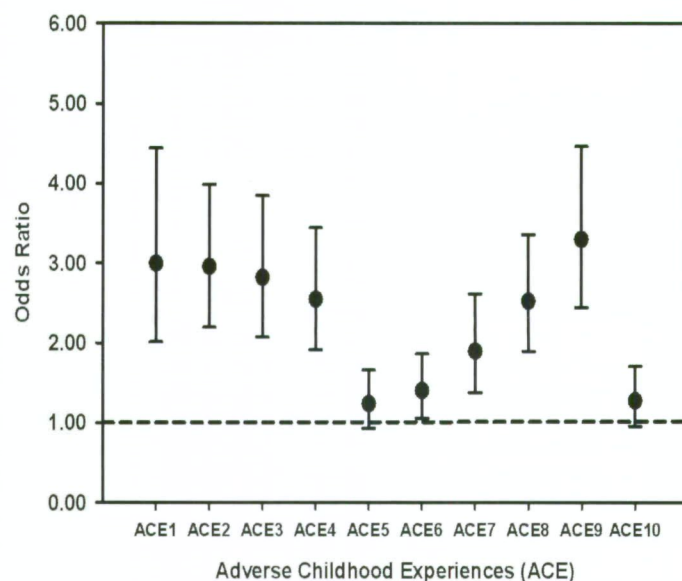
\*Monte Carlo resampling and bootstrapped resampling are at 10,000 replications.

<sup>a</sup>  $P < 0.001$

<sup>b</sup>  $p < 0.01$

<sup>c</sup>  $p < 0.05$

Figure 1. Odds Ratios and 95% Confidence Intervals of Odds Ratios of Self-Reported Depression Across All Adverse Childhood Experiences (ACE) Categories.



reported depression,  $p \leq 0.001$  significance was reported for ACE 1 to 4 and ACE 7 to 9. There was  $p \leq 0.05$  significance for ACE 6. Two ACEs under the .05 level were ACE 5 and ACE 10. Definite clinical significance was found for ACE1-3 and 9, possible clinical significance for ACE 4 and 7-8, no clinical significance for ACE 5-6 and 10.

The average effect size = 0.17 across all ACEs. See Table 2 for reportable statistical assessments, associations, and ORs across ACEs. Figure 1 presents ORs and 95% Confidence Intervals of ORs of Self-Reported Depression across all ACE categories. This information provides an estimate of the clinical significance of OR across all ten ACEs.

## DISCUSSION

Few studies have examined the association between a broad range of ACEs and self-reported depression (Hill, 2003). Consistent with previous studies demonstrating relations between exposure to multiple types of child maltreatment and risk for adult mental health problems (Anda et al., 2002; Edwards et al., 2003; Weiss, Longhurst, & Mazure, 1999), clear relations emerged between the types of abuse experienced and risk for mental health problem. In this study, each single ACE score indicated statistical significance when correlated with self-reported depression except for ACE 5 (physical neglect) and ACE 10 (criminal household member). Similarly, strong clinical significance was noted with all ACEs except ACE 5, 6, and 10. According to Man-Son-Hing and associates (2002) research that reports clinical importance (e.g., the lower limit of the 95% CI is above the minimal clinically important difference) will consistently be statistically significant ( $P < .05$ ). These findings indicate that sample participants who experienced the following during childhood: emotional, physical, and sexual abuse; emotional neglect; mother treated violently; and living with someone who was depressed, mentally ill, and/or attempted suicide have greater risk for self-reported adult depression and may benefit from targeted interventions earlier on to mitigate these effects.



When looking at adult depression, other studies that examined varied childhood abuse and/or adversity have found similar findings. For example, Anda and colleagues (2002) examined how growing up with alcoholic parents and having adverse childhood experiences are related to the risk of alcoholism and depression in adulthood. They found that the results from these participants showed a strong, graded relationship between the ACE score and a lifetime history of depression. Edwards and researchers (2003) examined the prevalence of a history of various combinations of childhood maltreatment types (e.g., physical abuse, sexual abuse, and witnessing of maternal battering) among adult members of a health maintenance organization. Edwards et al. explored the relationship with adult mental health of varied types of childhood maltreatment and emotional abuse in the childhood family environment. Results indicated that lower mean mental health scores indicating worse depression were associated with higher numbers of abuse categories. Weiss et al. (1999) examined the role that childhood sexual abuse in the adult onset of depression. Findings revealed that greater severity, frequency, and duration of abuse results in an increased likelihood of subsequently developing depression. Lastly according to Schilling, Aseltine, and Gore (2007) who examined self-reported lifetime exposure to a range of ACEs to three mental health outcomes—depressive symptoms, drug abuse, and antisocial behavior, found ACE 9 (parent separating) as the only one not significantly associated with depressive symptoms.

Recognition of depression is important given its association with suicidal ideation. Brodsky and colleagues (2001) examined the relationship of childhood abuse to impulsivity and suicidal behavior in adults with major depression. They found that adults who reported depression and a history of either physical or sexual abuse in childhood were more likely to have made a previous suicide attempt than those who did not report a history of abuse. Given that depression is a common symptom of untreated ACEs, primary care providers need to be more vigilant in assessing for depression making sure to consider contextual and cultural factors. Magnus, Shankar, and Broussard (2010) report that although depression is underrecognized and undertreated, it is the second most common chronic health condition after hypertension. What's more, 35% to 50% of persons with depression go unrecognized annually (Magnus et al., 2010). Early recognition and appropriate intervention for depression in primary care is critical to diminish adverse health outcomes and use of mental health and social services in adulthood (Yanos, Czaja, & Widom, 2010).

The findings of this research are relevant in addressing the significance of assessment for ACEs, and examining both the statistical and clinical significance of study results. Being able to target where treatment efficacy is most useful, practitioners and researchers can more effectively help patients and minimize costs, side effects, and inconveniences of biomedical care and/or therapy. This is important since "the minimal clinically important difference is the smallest treatment efficacy that would lead to a change in a patient's management" (Man-Son-Hing et al., 2002, p. 469). Thus, it is critical for practitioners to recognize that research results that are statistically significantly are not always clinically important and vice versa; statistically insignificant results are not always clinically irrelevant (Man-Son-Hing et al., 2002).

Also, given that primary healthcare providers provide the majority of mental health care, healthcare delivery systems must be realigned to meet the needs of the population. Reiss-Brennan, Briot, Cannon, and James (2006) report that mental health integration into primary care, treating mental health conditions as any other health concerns from identification to recovery, may help to mitigate treatment disparities particularly

for ethnic minority populations, the elderly and children, and less educated populations. Furthermore, Reiss-Brennan and associates (2006) advise implementing a "treatment cascade" for stratifying patients and families into different treatment levels based on overall impairment and disease severity (e.g., mild, moderate, or severe) (p. S3-39). In the integrated care model, the mental health provider (e.g., psychiatric advanced practice nurse, psychologist, or social worker) is part of the treatment team and may see the patient with the primary care provider or facilitate family sessions or patient groups. Implementing a system such as this also supports preventive efforts that can capitalize on minority community strengths (e.g., social support, a protective factor for the onset of depressive disorders) to reduce incidence of these disorders. Not only is integration of care important, Van Voorhees, Walters, Prochaska, and Quinn (2007) report that culturally tailoring depression intervention should be considered instead of providing "standardized treatments" particularly when working with populations that have distinctive problems that are not effectively addressed by standard approaches (p. 184 S). Understanding the link between adverse childhood experiences and depression in adulthood is critical given that ACEs are often the root cause of depression and subsequent changes in chemistry and structure of the brain. These dual legacy issues—depression and adverse childhood experiences—are often hidden and remain voiceless. Mental health nurses can help affected individuals undertake the process of healing from their core outward through recognition (i.e., culturally sensitive assessment/screening with a patient-in-context).

Future research on adverse childhood experiences should further disentangle the pathways, correlates, and differential impacts of different types of abuse. Studies should also examine the role of protective factors (e.g., social support, parental attachment) related to risk and resilience for depression among persons who experience adverse childhood experiences. While the information provided from this study has important insights there were several limitations that are worth mentioning so that future research can address these gaps. First, this study did not differentiate between mild, moderate, or severe levels of depression. Moreover, participant's self-reported depression was not confirmed by a clinical evaluation by a licensed mental health provider. Second, since each of the questions about ACEs addressed sensitive topics, and the questions about ACEs and self-reported depression were retrospective, both the exposure (ACEs) and the outcome (self-reported depression) were possibly underreported. Third, because the sample included a large proportion of persons of lower socioeconomic status findings may not generalize to cases of ACEs among adults with midlevel to higher socioeconomic status.

## CONCLUSION

This study helps to improve the understanding of the possible causes of depression which is basic to better healthcare practice. These findings highlight the importance of research on the prevalence of and risks for multiple types of childhood maltreatment, particularly in the somewhat neglected area of self-reported depression. These findings can be used to highlight the need for preventive interventions that target negative sequelae of adverse childhood experiences and to tailor preventive interventions to the needs and expectations of those at high risk. Importantly, primary care providers (such as advanced practice nurses) should be aware of and routinely ask about ACEs. In clinical practice, proper approaches to counseling may help avert and better manage health risk behaviors that are a consequence of ACEs. This may eventually lead to further reductions in the occurrence of depression. Efforts to mitigate and prevent depression will likely benefit from preventing ACEs and treating individuals exposed to them. Discernment that ACEs lead to risk behaviors that subsequently



increase the likelihood of depression could provide insight that can improve prevention efforts.

## REFERENCES

- Anda, R., Whitfield, C., Felitti, V., Chapman, D., Edwards, V., Dube, S., & Williamson, D. (2002). Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression. *Psychiatric Services*, 53, 1001-1009.
- Ani, C., Bazargan, M., Hindman, D., Bell, D., Farooq, M., Akhanjee, L., Rodriguez, M. (2008). Depression symptomatology and diagnosis: discordance between patients and physicians in primary care settings. *BioMed Central*, 9, Retrieved from, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2254627/pdf/1471-2296-9-1.pdf> doi: 10.1186/1471-2296-9-1
- Arnold, B. A., Hart, S., Scott, C., Dea, R., O'Connell, L., Taylor, C. B. (1999). Childhood sexual abuse, psychological distress, and medical use among women. *Psychosomatic Medicine*, 61, 762-770. doi#
- Bazargan, M., Bazargan-Hejazi, S., & Baker, R. (2005). Treatment of self-reported depression among Hispanics and African American. *Journal of Health Care for the Poor and Underserved*, 16(2), 328-345. doi#
- Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. New York, NY: Harper and Row.
- Bowlby, J. (1973). *Attachment and loss: Vol 2. Separation: Anxiety and anger*. New York, NY: Basic Books.
- Bowlby, J. (1980). *Attachment and loss: Vol 3. Loss: Sadness and depression*. New York, NY: Basic Books.
- Brodsky, B., Oquendo, M., Ellis, S., Haas, G., Malone, K., & Mann, J. (2001). The relationship of childhood abuse to impulsivity and suicidal behavior in adults with major depression. *American Journal of Psychiatry*, 158(11), 1871-1877.
- Dong, M., Dube, S., Felitti, V., Giles, W., & Anda, R. (2003). Adverse childhood experiences and self-reported liver disease: New insights into the causal pathway. *Archives of Internal Medicine*, 163, Retrieved from, <http://www.annafoundation.org/ACE%20folder%20for%20website/12ALDC.pdf>
- Edwards, V. J., Holden, G. W., Anda, R. F., & Felitti, V. J. (2003). Experiencing multiple forms of childhood maltreatment and adult mental health: results from the Adverse Childhood Experiences (ACE) Study. *American Journal of Psychiatry*, 160(8), 1453-1460.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences Study. *American Journal of Preventive Medicine*, 14, 245-58. doi#
- Finestone, H. M., Stena, P., Davies, F., Stalker, C., Fry, R., & Koumanis, J. (2000). Chronic pain and health care utilization in women with a history of childhood sexual abuse. *Child Abuse & Neglect*, 24, 547-556. doi#
- Hagen, B., Wong-Wylie, G., & Pijl-Zieber, E. (2010). Tablets or talk? A critical review of the literature comparing antidepressants and counseling for the treatment of depression. *The Journal of Mental Health Counseling*, 32, 102-124.
- Hill, J. (2003). Childhood trauma and depression. *Current Opinion in Psychiatry*, 16(1), 3-6.
- Kendler, K. S., Gardner, C. O., & Prescott, C. A. (2006). Toward a comprehensive developmental model for major depression in men. *American Journal of Psychiatry*, 163, 115-124.
- MacMillan, H. L., Fleming, J. E., Streiner, D. L., Lin, E., Boyle, M. H., Jamieson, E., Beardslee, W. R. (2001). Childhood abuse and lifetime psychopathology in a community sample. *American Journal of Psychiatry*, 158, 1878-1883.
- Maercker, A., Michael, T., Fehm, L., Becker, E. S., & Margraf, J. (2004). Age of traumatization as a predictor of post-traumatic stress disorder or major depression in young women. *British Journal of Psychiatry*, 184, 482-487.
- Magnus, J., Shankar, A., & Broussard, D. (2010). Self-report of depressive symptoms in African American and White women in primary care. *Journal of the National Medical Association*, 102(5), 389-395.
- Man-Son-Hing, M., Laupacis, A., O'Rourke, K., Molnar, F., Mahon, J., Chan, K., & Wells, G. (2002). Determination of the clinical importance of study results: A review. *Journal of General Internal Medicine*, 17, 469-476.
- Naylor, M., & Kurtzman, E. (2010). The role of nurse practitioners in reinventing primary care. *Health Affairs*, 29(5), 893-900.
- Reiss-Brennan, B., Briot, P., Cannon, W., & James, B. (2006). Mental health integration: Rethinking practitioner roles in the treatment of depression: THE specialist, primary care physician, and the practice nurse. *Ethnicity & Disease*, 16, S3-37-S3-43.
- Schilling, E., Aseltine, R., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: A longitudinal survey. *BMC Public Health*, 7, Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1832182/pdf/1471-2458-7-30.pdf> doi:10.1186/1471-2458-7-30.
- Spatz-Widom, C., DuMont, K., & Czaja, S. J. (2007). A prospective investigation of major depressive disorder and comorbidity in abused and neglected children grown up. *Archives of General Psychiatry*, 64, 49-56.
- Van Voorhees, B., Fogel, J., Houston, T., Cooper, L., Wang, N., & Ford, D. (2006). Attitudes and illness factors associated with low perceived need for depression treatment among young adults. *Social Psychiatry and Psychiatric Epidemiology*, 41, 746-754. doi# 10.1007/s00127-006-0091-x
- Van Voorhees, B. W., Walters, A. E., Prochaska, M., and Quinn, M. T. (2007). Reducing health disparities in depressive disorders outcomes between non-Hispanic whites and ethnic minorities: A call for pragmatic strategies over the life course. *Medical Care Research and Review*, 64, 157S-194S.
- Weiss, E. L., Longhurst, J. G., & Mazure, C. M. (1999). Childhood sexual abuse as a risk factor for depression in women: Psychosocial and neurobiological correlates. *The American Journal of Psychiatry*, 156(6), 816-828.
- Yanos, P., Czaja, S., & Widom, C. (2010). A prospective examination of service use by abused and neglected children followed up into adulthood. *Psychiatric Services*, 61(8), 796-802. doi: 10.1176/appi.ps.61.8.796 <http://www.psychservices.psychiatryonline.org/cgi/reprint/55/12/1379>.

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