The Effects of ACEs that Contribute to Chronic Illness in Adulthood: A Literature Review

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Research Question

How do adverse childhood experiences contribute to the development of chronic illnesses in adulthood?

Abstract

Introduction

Non-communicable chronic illnesses are the leading cause of disability and death in the United States, affecting over half of the adult population (Boersma et al., 2020; Centers for Disease Control and Prevention, 2024b) The prevalence of multiple chronic illnesses has risen from 21.8% to 27.2% since 2001 (Boersma et al., 2020). In 2021, cardiovascular diseases, such as heart disease and stroke, accounted for over 900,000 deaths in the United States (Hacker, 2024). Cancer, the second leading cause of death was responsible for about 600,000 deaths with lung cancer being the most prevalent (Hacker, 2024) . Diabetes, a chronic illness that is becoming increasingly prevalent, caused over 103,000 deaths in the United States during 2021 (Hacker, 2024). The high prevalence and mortality rates of these chronic illnesses have led to billions of dollars being spent on healthcare for prevention and treatment. (Hacker, 2024). Moreover, chronic illnesses diminish quality of life. Managing these conditions involve finding a treatment plan, organizing multiple medications, and scheduling regular doctor visits that may interfere with work and daily activities (Centers for Disease Control and Prevention, 2024b). Individuals may also experience anxiety, depression, or frustration, further impacting their quality of life (Giroux et al., 2020).

Risk factors for chronic disease include smoking, lack of physical activity, poor nutrition, and excessive alcohol use (Centers for Disease Control and Prevention, 2024a). While

many risk factors are modifiable with preventative measures, there are others, such as adverse childhood experiences (ACEs), that are not as easily preventable. ACEs can be defined as traumatic and stressful events within a child's family and community during the first eighteen years of life (Harvard University). These events include but are not limited to physical, emotional and sexual abuse, neglect, and household dysfunction (Harvard University). In the United States, around two-thirds of the adult population have experienced one or more ACEs (Swedo et al., 2023). Of these ACEs, emotional abuse, parental separation, and substance abuse are the most common (Swedo et al., 2023).

ACEs are disproportionately common in vulnerable populations such women and non-Hispanic American Indian or Alaska Native adults (Centers for Disease Control and Prevention). Individuals with four or more ACEs were found to be with low income, less than high school education, and/or unemployed (Swedo et al., 2023). The prolonged or toxic stress from ACEs can negatively impact a developing brain, leading to mental disorders and unhealthy behaviors such as excessive substance use or eating disorders (Harvard University). Toxic stress can also affect the immune system, the nervous system, and the endocrine system (Bucci et al., 2016). With these factors combined, it can be suggested that ACEs affect health outcomes, specifically in association with chronic illnesses.

Starting in young adulthood around the ages of 18 to 34, individuals who have experienced multiple ACEs are at a higher risk of developing multiple chronic illnesses (Sonu et al., 2019). Managing chronic illnesses at a younger age can be challenging as complications and comorbidities begin accumulating over time. For example, prolonged hypertension may lead to congestive heart failure later in life (Sonu et al., 2019). Disability may also restrict physical

activity over time and chronic illnesses can become an significant financial burden (Sonu et al., 2019).

While extensive research exists on the effects of ACEs in children and younger adults, there is less literature that focuses on their long-term impact on chronic illness development in adulthood. This study aims to examine how adverse childhood experiences contribute to the development of chronic illness in adulthood. By understanding the overarching factors that lead to the development of chronic illness, this literature review can provide insight to the prevention and treatment of health-related impacts of ACEs.

Methods

Within this literature review, two databases relevant to the topic were obtained, PubMed and PsycINFO. PubMed was selected as a database because it includes a vast majority of medical journal articles that are peer reviewed. Using peer reviewed articles ensures that the information used from articles is credible and reliable. This database was useful for the research question because there is a variety of articles focusing on health, specifically chronic illness, and its effects. The PsycINFO database also provided peer reviewed articles that are related to behavioral and social sciences. This database was useful for the research question because it provided information about ACEs and how they affect the health of an individual. Through narrowing search terms, these databases provided ten peer reviewed articles that are best fit for the research question. See *Figure 1.* for information about how literature was selected for this paper.

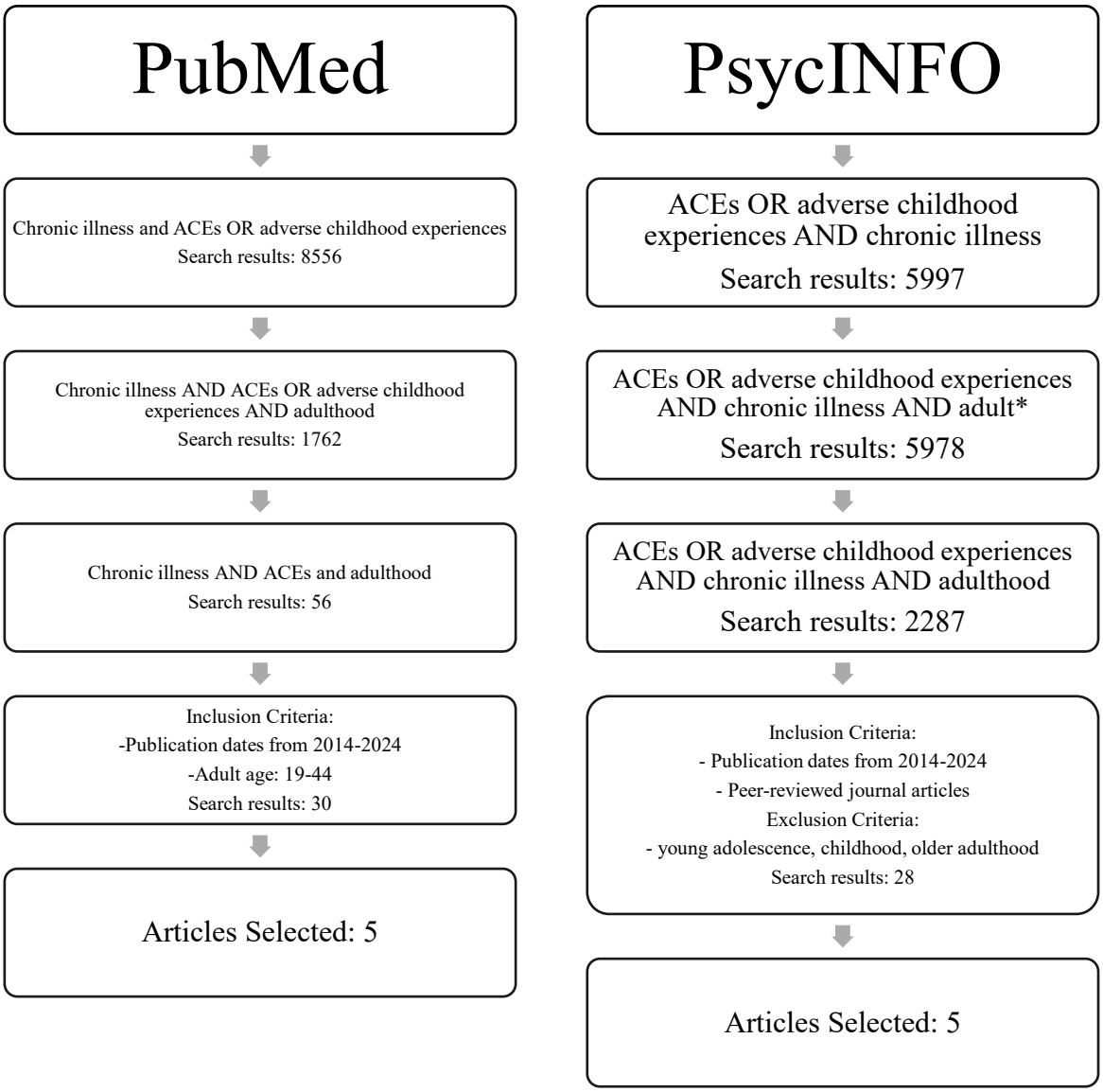
The search in PubMed began with “chronic illness AND ACEs OR adverse childhood experiences” which yield 8556 results. Searching both “ACEs” and “adverse childhood

experiences" accounted for both uses of the term in published work. Additionally, chronic illness was used to ensure the broadest literature could be presented in terms of chronic illnesses. To narrow down the results the next search was "chronic illness AND ACEs OR adverse childhood experiences AND adulthood" that gave 1762 results. Adding the term "adulthood" narrowed the search to the specific population. The last search that reduced the results was "chronic illness AND ACEs AND adulthood" that yielded 56 results. When the term "adverse childhood experiences" was removed, this narrowed the articles that were more specific than if both terms were used. Within this search, the inclusion criteria were publication dates from 2014-2024 which ensured that the articles in the search were relevant and credible to the research question Additionally, the age included 19-44 years old which aided in specifying the specific population. The addition of this inclusion criteria resulted in 30 journal articles from which five were used in this literature review.

Within the PsycINFO database, the first search was "ACEs OR adverse childhood experiences AND chronic illness" that produced 5997 results. This search mirrors the search with the PubMed so that both uses of ACEs could be searched for as well as chronic illness. The next search was "ACES OR adverse childhood experiences AND chronic illness AND adult*". This search yielded 5987 results. The use of "adult*" was used to provide a variety of results that included the specific population. The next search included "ACEs OR adverse childhood experiences AND chronic illness AND adulthood" that had 2287 results. To further narrow down this search the inclusion criteria included publication dates from 2014-2024 and peer-reviewed journal articles. This specific time frame ensured that the results provided relevant information from within the last ten years while also having peer-reviewed journal articles establishes credibility. This narrowed down the results to 28 articles, from which five articles were chosen.

To select relevant and credible literature, articles were limited to the years 2014 to 2024 and peer reviewed. Within each database, there was a specific range of ages that were included and excluded. Specifically in the PubMed database, the ages of 19-44 were included while ages outside of this range were excluded. In the PsycINFO database, the terms “young adolescence”, “childhood”, and “older adulthood” were excluded to ensure that the searches only included information about adulthood.

Figure 1. Article Selection Process



Results

The prevalence of chronic illness among adults who have experienced ACEs is a significant issue. The association between ACEs and chronic illness was evaluated through ten articles revealing three overarching factors. The first finding was chronic stress and its effects on physical wellbeing. The next finding was the association of coping mechanisms from ACEs as they relate to chronic illness. Another finding included socioeconomic status as a predictor of an individual's health outcomes. Refer to *Table 1.* for a detailed description of the ten articles.

Chronic Stress

Many articles presented the consequences of chronic stress on the body which can be associated with the development of chronic illnesses. Trauma and stress from ACEs begin to cause dysregulations in physical and mental wellbeing during childhood. (Nurius et al., 2015). As the individual ages, this can lead to stress proliferation, in which stress begins to accumulate and negatively influence quality of life in adulthood (Nurius et al., 2015). Adults with a history of ACEs and childhood stress tend to have more daily stress and negative emotions (Kong et al., 2021). Prolonged daily stressors in adulthood negatively affect the functioning of the endocrine and cardiovascular systems, specifically affecting cortisol levels and heart rate that are controlled by the hypothalamic-pituitary-adrenal (HPA) axis (Voellmin et al., 2015). Irregular functioning of bodily systems overtime leads to chronic health issues that become prominent in adulthood (Kong et al., 2021).

It is also recognized that ACEs is associated with inflammation that is due to chronic stress (Levine et al., 2015). The heightened regulation of stress in the nervous system creates a correlation between childhood adversity and pro-inflammatory gene expression (Levine et al.,

2015). Chronic inflammatory responses can disrupt homeostasis and therefore increase the risk of future health issues (Levine et al., 2015). Since the HPA axis has control of cortisol levels and heart rate, this shows a relationship between chronic inflammation and dysregulation of the endocrine and cardiovascular system that ultimately becomes harmful to an individual's physical wellbeing, therefore contributing to the progression of chronic illness (Levine et al., 2015; Voellmin et al., 2015).

Coping Mechanisms

Several articles discussed the effects of coping mechanisms related to ACEs and risk behaviors. The negative effects of ACEs contribute to anxiety, depression, and/or suicidal thoughts that can lead to maladaptive coping mechanisms (Almuneef et al., 2014; Cubbin et al., 2019). Negative coping is often due to an accumulation of adversities over time (Nurius et al., 2015). As broader factors, such as socioeconomic status, begin to diminish, this ultimately leads to limited social support and cognitive resources (Islam et al., 2023; Nurius et al., 2015). Without this interaction, individuals may struggle to maintain of healthy habits, consequently turning to risky behaviors (Nurius et al., 2015).

Throughout the literature, the two most common risk behaviors associated with ACEs was alcohol use and smoking (Islam et al., 2023). Substance use can be attributed to patterns that were formed during childhood adversity. For example, those who report ACEs involving substance abuse are more likely to engage in these behaviors and have an overall lower health status (Hajat et al., 2020). Individuals that use alcohol and/or smoke are more at risk for heart disease, cancer, stroke, and respiratory diseases such as chronic obstructive pulmonary disease (COPD) and chronic bronchitis (Downey et al., 2017).

Socioeconomic Status

Much of the literature revealed the relationship between ACEs and chronic illnesses as they relate to socioeconomic status (SES). Individuals with a lower SES are often correlated with higher incidence of ACEs (Hajat et al., 2020). These factors specifically include sex/gender, race, and income. Overwhelmingly, articles found that women are disproportionally affected by ACEs and have a higher prevalence of chronic diseases (Cubbin et al., 2019; Llabre et al., 2017). Minorities can be seen to have less favorable outcomes in terms of ACEs, and this correlation increases if an individual identifies as gay or bisexual (Hajat et al., 2020; Islam et al., 2023). Even more, this is true for those of Hispanic, Native American, or African American descent (Islam et al., 2023; Llabre et al., 2017). Compared with these groups, those who were white and heterosexual tended to have less incidences of ACEs and therefore less risk of chronic diseases (Hajat et al., 2020).

It is also important to highlight the effects of ACEs as they relate to low income. Those of low income often have a higher association of reporting one of more chronic illnesses (Cubbin et al., 2019). Having a lower income is also connected to a lack of access to care, consequently allowing physical and mental wellbeing to suffer due to underserved needs (Nurius et al., 2015). Additionally, having low SES is linked to a higher inflammatory response in the body that can exacerbate the prevalence of chronic illness (Levine et al., 2015). This inflammatory response is due to the presence of ACEs in childhood and can be linked to diseases such as coronary heart diseases (CHD), cancer, and COPD (Llabre et al., 2017).

Table 1. Detailed Summary of Articles Reviewed

	Author	Year	Article Title and Journal	Purpose	Sample	Study Type	Findings	Limitations
1	Almuneef, M. Qayad, M. Aleissa, M. Albuhairan, F.	2014	Adverse childhood experiences, chronic diseases, and risky health behaviors in Saudi Arabian adults: A pilot study *Child Abuse and Neglect*	To examine the associations between adverse childhood experiences, chronic diseases, and risky behaviors of adults.	1,120 adults (ages 18 and older) participated in a questionnaire, the Adverse Childhood Experiences International Questionnaire (ACE-IQ). This questionnaire contains eight domains including marriage and family demographics, protection, neglect, household dysfunction, abuse, and peer, community, and collective violence.	Quantitative, empirical study and questionnaire	Findings revealed a strong association between an individual having four or more ACEs and risky behaviors. Those with ACEs scores of 4 or more were associated with having diabetes, hypertension, chronic respiratory diseases, liver diseases, venereal diseases, depression, and anxiety. The most significant risky behavior linked with ACE scores includes smoking, and for those with a score of 4 or more, this was linked with regular alcohol consumption and illicit drug use. There was also a	The sample was not randomly selected. Participants were college-educated young adults that only had high health risk factors for chronic illness. The study was also only conducted in the capital of Saudi Arabia which does not account for rural areas.

							connection between abnormal moods and ACEs, significantly with suicidal thoughts.	
2	Cubbin, C. Kim, Y. Panisch, L.S.	2019	Familial childhood adversity is associated with chronic disease among women: Data from the Geographic Research on Wellbeing (GROW) study. *Maternal and Child Health Journal*	To analyze the evidence of ACEs among women associated with chronic disease in relation to racial/ethnic discrimination and social factors	2409 adult U.S women Ages: 30-57	Quantitative empirical study	Findings revealed that the relationship between FCAs and chronic disease are statistically significant. Women who were immigrant Latinas, divorced, or have low family income had a higher association of reporting one or more chronic illnesses. Having diabetes or high cholesterol were also a driving force of this association. It was also suggested that mental health is a mediator for the association and can be concluded by the high reports of depression in the women of the study.	There could have been a potential health care access bias as women may have not been aware of all chronic diseases they could have been diagnosed with. Data was based on self-report. There was obscured data of FCAs associated with each condition separately. Abuse-related items were not included and therefore not analyzed.
3	Downey, J.C. Gudmunson, C.G. Pang, Y.C. Kyuho, L.	2017	Adverse Childhood Experiences Affect Health Risk Behaviors and Chronic Health of Iowans	To replicate the original ACEs study for the state of Iowa and evaluate the	6361 randomly selected Iowans ages 18+	Quantitative empirical study	Findings reveal that over half of the respondents experienced an ACE, with	The data includes self-reported information

			Journal of Family Violence	prevalence of ACEs as well as its effects.			emotional abuse and substance abuse being the most prevalent in their categories. Those identifying as black, Hispanic, or multi-racial were more likely to have experienced more ACEs, and those with more education had less prevalence of ACEs. Those with 4 or more ACEs have a much higher risk of being a current smoker than those with less ACEs and report more obesity and depression. It was also revealed that a higher ACE score was linked to higher prevalence of diseases such as cancer, respiratory diseases, and heart diseases.	about private information, so there could have been and underestimation of report and therefore underestimated results. The majority of demographic information includes Caucasians and an older population, therefore this study may not be as likely to mimic other populations. Additionally, an older population may make recalling past events more difficult.
4	Hajat, A. Nurius, P. Song, C.	2020	Differing trajectories of adversity over the life course: Implications for adult health and well-being.	To create trajectories of adversity over life by comparing adversities in adulthood to	Data from 2011 Behavioral Risk Factor Surveillance System (BRFSS)	Quantitative empirical study	Findings revealed that adverse childhood experiences can be linked to adverse adult experiences.	This is a descriptive, cross-sectional study, where something longitudinal may

			Child Abuse and Neglect	those in childhood. Then to describe the effects these trajectories of adversity have on socioeconomic and health status.	for Washington State Non-institutionalized English/Spanish speaking adults; ages 18+		For example, those who experienced physical and sexual abuse are more likely to have adult depression. Those with substance abuse and incarceration in their childhood had the highest prevalence of adult substance abuse and incarceration. The overall sample age was 58. The highest ACE-incident group included majority females and younger participants, with most being sexual minorities (Native American and Mixed race). In the low ACE-incident group, the demographic included white, heterosexual respondents. The high ACE group had poor nutrition, food insecurity and low SES.	be more successful at finding a causal relationship. Additionally, the study being retrospective may not be as effective for recalling ACEs as if the study were done in childhood. Last, self-reporting may undermine the data and its analysis.

5	Islam, M. Rashid, Mai. Rashid, Mam.	2023	Adverse childhood experiences and association with poorer health and health-harming behaviors in adulthood among the Americans *Child: Care, Health, and Development*	To assess the prevalence of ACEs in relation to socio-demographics, health, mental health, and risky health behaviors in adulthood.	Data obtained from the 2019 BRFSS. The sample included 116,032 American adults from 22 states.	Quantitative empirical study	Findings reveal that over half of respondents have experienced at least one ACE, with emotional abuse, substance abuse, parental separation, and physical abuse being the most common. Those with more ACEs were female, younger, a minority, had less than a high school education, lower income, and identified as gay or bisexual. Risky behaviors associated with ACE score include binge drinking, heavy drinking, current smoking, arthritis, depressive disorder, and asthma. The highest association of high ACE score	Several of the ACE questions from the original study were modified, such as questions about neglect and abuse. This potentially misdirects the focus of intervention focuses on these topics and makes it difficult to generalize these results.

							was binge drinking, smoking, and heart attack.	
6	Kong, J. Liu, Y. Goldberg, J. Almeida, D.	2021	Adverse childhood experiences amplify the longitudinal associations of adult daily stress and health *Child Abuse and Neglect*	To explore the association between ACEs and daily stress as a prediction of long-term health and well-being.	Data from the 2022 daily diary of the National Study of Daily Experiences (NSDE 2), longitudinal survey data from Midlife in the United States (MIDUS), and an interview of 14,912 participants	Quantitative, empirical study and interview	Findings revealed statistically significant results that those with more stress had more overall negative affect (negative emotions and experiences) that was associated with more chronic health conditions ten years or later. There is also an association to ACEs and daily stress and these individuals had higher negative affect. Overall, there was an indirect effect of exposure to daily stressors on expected chronic illnesses due to overall daily negative affect that is associated with	ACEs were reported retrospectively. The sample is not representative of the general population as those studied were more likely to be white, female, and married. There was no specified daily stressors (categories of stress).

							higher incidence of ACEs.	
7	Levine. M. Cole, S. Weir, D. Crimmins, E.	2015	Childhood and later life stressors and increased inflammatory gene expression at older ages *Social Science & Medicine*	To examine the relationship between childhood adversity and inflammatory gene expression.	113 randomly selected participants from the HRS, a longitudinal study of the US population of ages 50 and older. RNA samples were taken from participants as well as an assessment of their childhood.	Questionnaire, empirical study	Findings reveal that childhood trauma causes an inflammatory response for individuals in late adulthood. It was also found that this association may exacerbate the association between gene expression and low socioeconomic status in adulthood.	The sample size was relatively small, which may cause a lack of relationships of significance. Having only three markers of gene expression may not allow for relationships to be of significance as well.
8	Llabre, M. Schneiderman, N. Gallo, L. Arguelles, W. Daviglus, M. Gonzalez II, F. Isasi, C. Perreira, K. Penedo. F	2017	Childhood trauma and adult risk factors and disease in Hispanics/Latinos in the US: Results from the Hispanic community health study/study of Latinos (HCHS/SOL) sociocultural ancillary study *Psychosomatic Medicine*	To assess the prevalence of ACEs among the Hispanic/Latino adult population and the association of ACEs with chronic illnesses and risk factors.	Data from the Hispanic Community Health Study (HCHS) and the Sociocultural Ancillary Study (SCAS) was used to assess the health, socioeconomic status, sociocultural, and	Quantitative, empirical study and interview.	Findings revealed that the mean age of participants was 42.5. The average annual household was less than $30,000. The highest prevalence of disease was asthma and the lowest was stroke. The average BMI was overweight. The prevalence of	The reporting of ACEs is retrospective and could lead to underreporting of ACEs and therefore reduced associations. There were also reporting of low prevalence that make it difficult

					psychological factors of participants. There were 5117 of Hispanic background evaluated. The measures include ACEs and social support. The health outcomes measured include depression (scale), BMI, diabetes (blood samples), and CHD (ECG). Cerebrovascular disease, COPD, asthma, cancer, and smoking/alcohol use were self reported.		alcohol use was reported by a large majority and smoking varied across ancestry groups. Women had the highest prevalence of 4 or more ACEs. ACE was significantly associated with the odds of having Coronary heart disease (CHD), COPD, or cancer.	to conclude associations.
9	Nurius, P. Green, S. Logan-Greene, P. Borja, S.	2015	Life course pathways of adverse childhood experiences toward adult psychological well-being: A stress process analysis	To evaluate the extent to which ACEs create stress that jeopardizes psychological	Data from the 2010 BRFFS consisting of participants 18 years or older in	Quantitative and empirical study	Findings revealed that the impact of ACEs can be indicated by mental health symptoms,	The findings were based on self-reports and was a retrospective survey that can

			Child Abuse and Neglect	health and wellbeing.	the United States.		perceived wellbeing, and impairment of daily activities. ACEs have the strongest correlation with psychological distress. Being bisexual had a less favorable outcome trend. Lower income contributed to missing daily activities and therefore less positive mental health outcomes.	indicate recall bias. Within the BRFSS data, there is a lack of information about early life poverty and economic status, making it difficult to evaluate these variables in association with ACEs.
10	Voellmin, A. Winzeler, K. Hug, E. Wilhelm, F. Schaefer, V. Gaab, J. Marca, R. Pruessner, J. Bader, K.	2015	Blunted endocrine and cardiovascular reactivity in young healthy women reporting a history of childhood adversity *Psychoneuroendocrinology*	To investigate the association of ACEs (duration and onset age) on endocrine and cardiovascular stress reactivity	104 women from ages 18-25 participating in the Montreal Imagining Stress task (MIST). Saliva and heart rate were also sampled before and after the testing.	Quantitative, empirical study and interview	Findings revealed that the average number of ACEs influences endocrine (high cortisol levels) and cardiovascular response (increased heart rate) in response to psychosocial stress. It was also revealed that having a long	The type of trauma from ACEs was not specified when using specific onset age. There was no study on the data of pre- and postnatal stress exposure. Additionally, the exact mechanisms or location of

							duration of ACEs showed an association to blunted cortisol reactivity. This study further showed the relationship between childhood adversity and its effects on the HPA axis. There was no association to specific onset age of ACEs and influences of stress.	dysregulations in the HPA axis and cardiovascular system could be identified due to complexity.

Discussion

As chronic illnesses become a leading cause of death, researchers must seek out the issues that cause this increasing trend. While it is understood that chronic illnesses are often caused by preventable risk behaviors, there are other factors that contribute to the progression of illnesses that lack awareness. The aim of this literature review is to examine the significance of adverse childhood experiences as a contributing factor to the development of chronic illness in adulthood. Examining the overarching factors can help researchers understand the challenges that chronically ill adults face as a result of ACEs.

The literature shows that ACEs create chronic stress that has effects on physical and mental wellbeing (Kong et al., 2021). Many of the stressors that individuals face in their adulthood are caused by stress that was present in childhood. The progression of chronic stress disrupts the functioning of the endocrine, cardiovascular, and nervous systems, leading to the development of chronic illness (Voellmin et al., 2015). The overwhelming effects of stress may take away from the time that individuals could be preventing it. Studies show that mindfulness and meditation are significantly beneficial to reducing inflammation and cortisol levels which can greatly reduce the risk of developing health issues (Gardi et al., 2022). It is important that information about stress management is available to those who have suffered from ACEs to improve their quality of life, which includes their physical and mental health.

ACEs also play a role in the development of maladaptive coping mechanisms that are associated with chronic illnesses (Almuneef et al., 2014). The literature revealed that alcohol use and smoking are the two most prominent risk behaviors as a direct result of ACEs (Hajat et al., 2020; Islam et al., 2023). It is often that individuals find themselves using these coping mechanisms, especially when ACEs involved parental misuse of substances (Hajat et al., 2020).

This finding aligns with other studies, as childhood maltreatment can also be linked to alcohol and substance abuse in the presence of post-traumatic stress disorder (PTSD) (De Bellis, 2002). Overall, this shows the need for guidance in coping mechanisms for those who have adverse experiences from childhood. It is vital that mental health resources are accessible for those in need.

Socioeconomic status was also found as a contributing factor to the emergence of chronic illnesses due to ACEs (Hajat et al., 2020). The reviewed literature commonly found that women and Hispanic, Native American, or African American minorities, specifically identifying as gay or bisexual, had higher occurrences of ACEs and a higher risk of chronic illnesses (Cubbin et al., 2019; Islam et al., 2023). Additionally, those of low income were found to suffer from more ACEs as this can be linked to a higher inflammatory response, and consequently chronic illness (Cubbin et al., 2019; Levine et al., 2015). The findings show that it is important that underserved individuals are the forefront of ACEs and chronic illness prevention. Since it has been observed that these individuals are at-risk, it is imperative that these communities have the most engagement with health professionals and officials.

Limitations

The main limitation of this study was the examination of only ten articles in the literature review. With a limited scope, this does not nearly define the complexity of the issue at hand and therefore cannot be completely generalized. This also means that there may have been overarching themes that were excluded due to lack of information. While this review of literature finds overarching themes, they may not have been as deeply explored as they could have been with more articles analysis. Even more, when conducting a methods search, using the term “adulthood” makes it difficult to specify the population and could therefore overgeneralize or

incorrectly identify the population within the literature review. For example, each article specified the ages of adulthood in a different way, which made a general definition of adulthood difficult to generate.

Implications

Through a review of the literature, it is evident that adverse childhood experiences have a significant long-term impact on individuals. Many factors caused by ACEs influence the health and wellbeing of individuals as they cope with their past experiences. In adulthood, a solution to helping people guide and manage their past experiences and chronic illnesses is intervention. Informing people about risk behaviors and their negative effects may allow people to understand their potential of developing or worsening a chronic illness. In addition, it is vital that education about healthy habits is provided to guide individuals to positive lifestyle choices. Information and resources for mental health are important to aid in the development of healthy coping strategies and allow people to acquire a sense social support. To mitigate the effects of ACEs before an individual reaches adulthood, prevention is imperative. It is important that an issue such as ACEs is prevented in childhood so as not to cause these long-lasting effects. Expecting parents should receive lessons on the complex challenges that children and adults will face in the case of adverse experiences, such as chronic illness. It is important that screening of children and parents is frequently assessed, along with information and resources to remedy familial issues. Parents should also be aware of the different parenting behaviors that simulate adverse childhood experiences and how to avoid them. All of this cannot be accomplished without further research within the field of literature. Future research is needed to examine how health promotion specialists, policymakers, and officials can implement information about ACEs into the community and establish outreach programs for those in need. Further research is also needed to

assess early prevention, as this is the most effective way to prevent the generational effects of ACEs.

Conclusion

In conclusion, this literature review provides an impetus for further discussion of ACEs and chronic illness. It is important to understand the deeper causes that underly the development of chronic illnesses as well as an understanding of the challenges ACEs contribute to wellbeing. While it is vital to understand and prevent the effects of ACEs in children before they become long term, there are instances in which prevention is needed in adulthood to instead halt proliferation of an unhealthy lifestyle and ultimately chronic illness. Health and government officials are needed to implement the prevention, intervention, and treatment of ACEs and chronic illnesses.

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