



ADVANCING HEALTH EDUCATION & RESEARCH

AVA Research Reviews provides AVA members with recent published, peer-reviewed articles in a broad array of violence and abuse topics. The goal is to highlight and disseminate violence and abuse research in a timely fashion, and to enhance healthcare providers' practice by fostering the educational mission of AVA

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AVA Research Review

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Review Title: Physical health outcomes in abused and neglected children: A 30-year follow-up

Reviewer: Howard Wey, PhD & MaryLou Mylant, PhD, RN both from South Dakota State University College of Nursing

Article:

Spatz Widom, C., Czaja, S.J., Bentley, T., & Johnson, M.S. (2012). A prospective investigation of physical health outcomes in abused and neglected children: New findings from a 30-year follow-up. *American Journal of Public Health*, 102(6), 1135-1144. doi: <http://dx.doi.org/10.2105/AJPH.2011.300636>

Article Summary:

Brief Overview:

In 2009 it was estimated that there were 3.3 million suspected cases and 700,000 confirmed of child maltreatment in the United

States (U.S.). Child maltreatment has been identified as having a strong relationship to physical health outcomes resulting in many health disparities and high health care costs. Many agree that child maltreatment leads to poor health outcomes in adulthood due to the psychological, spiritual and physical developmental effects of abuse and neglect upon children; however, data to support the causal mechanisms of child adversity upon adult health are lacking. Existing findings have not been able to demonstrate a cause and effect relationship between child abuse and neglect and physical health. This is mainly due to the fact that past studies have primarily used retrospective self-reports or cross-sectional designs limiting the ability to infer causation. Furthermore, biological measurements of possible underlying physiological processes involved in the effect of child maltreatment upon adult health

have not been used in evaluation. Thus, the authors propose that future research studies, such as the one under review, need to be longitudinal and include physiological and biological data.

Aims/hypotheses of the article:

The authors address these issues by conducting the first prospective study to examine the association between documented history of abuse and neglect and adverse physical health outcomes in adulthood. Using medical status exams and interviews conducted by an RN, prospectively matched and documented cases of childhood maltreatment are evaluated for increased risk of adverse physical health outcomes in adulthood when compared to matched controls and to a U.S. sample on comparable health indicators. Key confounding variables of age, gender, race, childhood and adult socioeconomic status (SES), unhealthy behaviors, smoking and mental health problems were controlled.

Relevant findings:

Employing a prospective matched cohort design, abused and neglected children ages zero to 11 years were followed into young adulthood and middle-age. The main findings of the study are based on the comparison of this cohort of

children with documented childhood maltreatment to a cohort of controls (no documentation of abuse and neglect) matched on age, gender, race and ethnicity, and a family social class measure incorporating neighborhood and schools information. Matching for children younger than school age included hospital of birth information. Matches were found for 74% of abused and neglected children. Over 80% of the maltreated cohort was in the neglect subgroup (n = 260 to 296) with the remainder roughly evenly split between physical abuse (n = 51 to 59) and sexual abuse (n = 46 to 49). Thus, the most reliable findings are for the neglect group.

Specific types of maltreatment, gender and race were associated with different health outcomes; however, in fully adjusted statistical models, child maltreatment was associated with above normal hemoglobin A1C (indicating increased risk for diabetes) in females, but not males. Among White race only, child maltreatment, with neglect in particular, was positively associated with elevated C-reactive protein which indicates increased risk for heart disease. For both genders, child maltreatment was associated with lower prevalence of anemia, lower

levels of albumin which indicates poorer nutrition, and higher prevalence of reduced peak airflow which indicates increased risk for lung disease. In fully adjusted statistical models, there were no associations unique to the physical abuse group, but for the sexual abuse group there was a negative association with anemia for females, but not males; for both genders there was positive association with malnutrition (based on BMI, blood lymphocyte count, or albumin) and negative association with oral health. Comparison to the general U.S. population was made using data from the National Health Interview Survey, but how this comparison was made is not clear. Specifically, there did not appear to be any restriction of the sample, or statistical adjustment of the comparison, to account for confounding by socioeconomic status and other potential confounders.

Authors' Conclusions:

Documented child abuse and neglect affect the prevalence of selected health status indicators in adulthood, specifically increasing the risk for diabetes, lung disease, malnutrition and vision problems. The data provide support for targeted health care prevention for children experiencing abuse and neglect.

Potential limitations of the article/ findings:

A strength of the study is the longitudinal design, but a limitation is that the sample of children with documented abuse and neglect is small and limited primarily to lower socioeconomic levels. This makes the generalizability of the findings difficult. There is also potential confounding by unreported childhood abuse and neglect, since these cases would be exclusively found in the control group. The authors do point out the possible overlay of the results related to poverty; although, both childhood and adult SES were controlled. The authors also caution generalization of these results to maltreated children in middle and upper SES.

Reviewer's Comments:

This study seeks to provide evidence that childhood maltreatment does impact adult health. Although the list of health disparities (diabetes, lung disease, malnutrition, and visual and oral health problems) is limited, this may be due to the design of the study. Using a prospective matched cohort design, the study under review provides the most convincing evidence to date that child maltreatment is associated with specific health disparities.

The effects of childhood maltreatment upon health have

long been documented through retrospective self-report and cross-sectional designs never demonstrating a causal relationship. Our current understandings of the biological disruptions that can occur when infants and children are maltreated lend credence to this study's findings. The findings of poor glycemic control and poor lung functioning must raise preventive efforts beyond weight control and smoking cessation, however. As the authors suggest, these findings directly support early health care prevention of abused and neglected children. Childhood neglect, in particular creates a long neglected at-risk group of childhood victims; yet is the most important predisposing factor for the health disruptions identified in this study.