

HEART

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Childhood maltreatment may be linked to heart disease in adulthood

Women appear to be particularly at risk of cardiovascular disease following child maltreatment, say researchers

Adults who experienced various forms of maltreatment in their childhood appear to have a higher risk of cardiovascular disease, suggests research published online in the journal **Heart**.

A team of international researchers found that women especially were more likely to have heart disease following a childhood that involved maltreatment including physical abuse, sexual abuse, or neglect.

Previous studies have suggested that childhood maltreatment is associated with an increased risk for many adverse mental and physical health outcomes, including cardiovascular diseases (CVD) in adulthood.

However, most studies assessed self-reported CVD, and few have used medically verified cases and/or investigated different types of CVD. There is also little evidence of how the association between maltreatment in childhood and CVD differs by sex and age.

Researchers, therefore, led by Dr Ana Gonçalves Soares from the University of Bristol's Medical School set out to assess and compare associations between childhood maltreatment and cardiovascular disease in men and women in the UK as well as possible age differences and associations with early onset CVD.

For their study, the researchers analysed responses to an online mental health questionnaire completed by 157,311 participants from the UK Biobank – an international health database designed to improve prevention, diagnosis and treatment of a wide range of serious and life-threatening illnesses.

The people selected had information on physical, sexual or emotional abuse, or emotional or physical neglect.

CVD outcomes – defined as any cardiovascular disease, hypertensive disease, ischaemic heart disease (IHD), and cerebrovascular disease – were extracted from self-report, blood pressure measurements, hospital registers and death registers.

Emotional neglect was the most common type of childhood maltreatment (22.5%), followed by physical abuse in men (21.1%) and emotional abuse in women (17.9%).

Analysis of the results showed that all types of maltreatment were associated with increased risk of CVD and IHD in both sexes but all forms of the maltreatment were more prevalent in women except for physical abuse, which was more prevalent in men.

Women were also more likely to experience a higher number of types of childhood maltreatment – 4.6% of women experienced four or more types of maltreatment, compared with 2.7% of men.

The prevalence of childhood maltreatment decreased with increasing age, except for sexual abuse in men, which did not vary, and physical neglect, which increased across age categories.

Younger participants also reported a higher number of maltreatment types, especially women.

The occurrence of any CVD was 54.3% in men and 40.3% in women, and all CVD types were more common in men.

When only medical records and measured blood pressure were considered, the occurrence of CVD was lower, but the same sex and age patterns were observed.

The authors acknowledged some limitations to their study such as the possibility of selection bias from the participants, and those involved were predominantly white, more likely to live in less deprived areas, and healthier with lower disease rates than the general British population.

Despite this, they said they believe their work to be the largest study to date assessing the association between childhood maltreatment and CVD in both sexes and exploring different types of maltreatment and different types of CVD.

They conclude: "All types of maltreatment were associated with higher risk of CVD in both men and women, with stronger associations in the latter and in younger participants, but some age differences disappeared when only early onset CVD was considered.

"Interventions that ameliorate the negative effects of childhood maltreatment are needed, as well as more understanding of the pathways that link childhood maltreatment to CVD and whether they differ by sex, types of maltreatment and CVD types."

In an accompanying editorial, Dr Leah Li and Dr Rebecca Lacey from University College London in the UK, say: "This current study adds important knowledge to the so-far limited literature on gender difference in the life course influence of childhood maltreatment on cardiometabolic health.

"If the association indeed differs by gender, it will be crucial to further explore the mechanisms and life course pathways that may contribute to the gender-specific associations and also the timing of their emergence. This may indicate the sensitive period during which intervention could lead to improvements in adult cardiometabolic health, especially for women."