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## Title

Gender disparities in the association of depression symptoms and cardiovascular disease in US adult population

Priority 1 (Research Category)

Secondary data analysis

## Presenters

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## Abstract

Context: Depression is a well-known independent risk factor for cardiovascular morbidity, mortality, and poor prognosis for a cardiac event, however, how gender effects this association is not understood. Objective: To identify the effect of gender in the association between depression and cardiovascular disease (CVD) status in the US adult population. Study Design and Analysis: Survey based, unadjusted and adjusted prevalence ratios (PR) were estimated using generalized linear model with Poisson family, and log link function using a cross-sectional survey dataset. Setting or Dataset: Secondary dataset from the National Health and Nutrition Examination Survey (NHANES) conducted during 2013-2018. Population Studied: Community-dwelling, non-institutionalized adults aged 20 years and older (N= 14,767). Instruments: The Patient Health Questionnaire (PHQ-9), a nine-item depression screening instrument. This instrument incorporates DSM-IV depression diagnostic criteria, subjects answered each of the nine items scoring points ranging from 0 to 3 on each item. Outcome Measures: CVD event (congestive heart failure, coronary heart disease, angina/angina pectoris, heart attack, or stroke). Results: CVD events were positively associated with higher PHQ-9 scores in unadjusted (PR:1.61, p<0.001 and PR:2.01, p=0.001 for mild/moderate and severe group respectively) and adjusted analysis (PR:1.38, p= 0.002 and PR:1.61, p=0.024 for mild/moderate and severe group respectively). Females were 45% less likely to have a CVD event compared to males. However, more CVDs were reported in females with mild/moderate depression (PR:1.52, p:0.003) and with moderately severe/severe depression (PR:2.22, p=0.002) compared to no/little depression and in males. In a subgroup adjusted analysis, female sex and having depressive symptoms was associated with higher CVD events (PR:2.03, p<0.001 and PR:3.38, p<0.001 for mild/moderate and severe group respectively) as compared to males with depressive symptoms (PR:1.41, p<0.001 and PR:1.66, p<0.001 for mild/moderate and severe group respectively). Conclusion: Females with more severe depressive symptoms are more likely to experience CVD events compared to males. Results highlight the importance of looking at specific risk factors for CVD events, and having a higher suspicion in women should, be considered in primary care

settings. Future studies are also needed on the characterization of possible pathophysiological mechanism of these outcomes.