The relationship between sexual function and cardiovascular health in women: Preliminary results

Competition category: Social sciences, education and business

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Introduction
Erectile dysfunction is a known predictor of cardiovascular disease (CVD) in men, and CVD is the leading cause of death in the United States in both men and women. Despite similarities in vascular engorgement during sexual arousal in men and women, little is known about CVD and female sexual arousal. While prior work has found that women with CVD report more sexual dysfunction, previous studies have not explored whether predictors of CVD are associated with sexual function in women. This is the first study to provide objective measures of the association between CVD and physiological measures to sexual arousal in women. Positive results would provide a useful tool for early detection of CVD risk in women.

Participants
Sexual psychophysiological measures
- Vaginal Pulse Amplitude (VPA) is an indirect measure of blood flow in the vaginal walls
  - Assessed with a Vaginal Photoplethysmograph, a clear plastic tampon-shaped device, placed and removed in private by the participant
  - Participants place the device, then watch a neutral video, followed by an erotic video
  - VPA baseline: average of VPA over a period of 30 sec during highest VPA response during neutral video
  - VPA erotic: average of VPA over a period of 30 sec during highest VPA response during erotic video

Cardiovascular Measures
- Doppler ultrasound measurements of cardiac volume and arterial size
- Measurements were taken at the brachial (arm) and the popliteal (leg) arteries
- Flow-Mediated Dilation
  - Assesses endothelial cell function
  - Artery is compressed and released, and the change in size of the artery is measured via ultrasound
  - Larger change means greater arterial flexibility and reduced cardiovascular risk
- Pulse wave velocity
  - Assesses arterial stiffness
  - Measures speed of the wave of blood caused by cardiac contraction (heartbeat)
  - Faster pulse wave velocity means less arterial flexibility and increased cardiovascular risk
- Cardiac output and stroke volume were assessed with echocardiography

Methods
- Participants will be able to confirm these results.
- Future studies should examine clitoral blood flow as well as whether there are woman-detectable symptoms associated with cardiovascular risk.

Results
- Pulse wave velocity seems to be related to vaginal pulse amplitude

Discussion
- These preliminary results, although based on a small sample, are promising and suggest that there may be a connection between sexual function in women and risk for CVD. Data from additional participants will be able to confirm these results.
- Future studies should examine clitoral blood flow as well as whether there are woman-detectable symptoms associated with cardiovascular risk.

Selected references


For a discussion of the use of pulse wave velocity as a predictor of cardiovascular health in women: Preliminary results

Future research should explore how women can identify changes in their own sexual responses that may be predictive of heart disease.