Cardiovascular- Heart at Work

Introduction

As we age, our bodies undergo natural changes, including a gradual slowing of heart rate and thickening of blood vessels. These changes can lead to increased fatigue and higher blood pressure. While aging alone does not cause major heart problems, the risk increases when combined with poor lifestyle factors.[1]

Cardiovascular disease (CVD) is the leading cause of death globally, with more than four out of five CVD-related deaths resulting from heart attacks.[2] A heart attack occurs when blood flow to the heart is reduced or blocked, depriving the heart muscles of oxygen, thus resulting in tissue death.[3] This simulation is designed to replicate the symptoms associated with restricted blood flow during a heart attack, including chest tightness, pain, shortness of breath, and dizziness.

Materials

- Clear and Open Space: Needs to be large enough to do jumping jacks and spin
- Chest Restraint: Can use tensor bandages, scarfs, belt or towel
- Ice Pack
- Heat Pack
- Small Weighted Item: bag of rice, coffee beans, or coins
- Arm Restraint: Can use elastic band, belt or scarf
- Breathing Restriction: Can use mask or nose plugs
- Sunglasses

Procedure Disclaimer: Please be careful when doing these activities to avoid physical injury

1. Do jumping jacks for 15 seconds. Notice how easy or difficult it is for you.
2. To stimulate chest tightness, pain and cold sweats: take your chest restraint and add a heat pack to the back and an ice pack to the front. Tie it around the bottom portion of your sternum (“the flat bone that lies in the midline of the chest).
3. To stimulate arm pain, take an elastic band and tie it around your upper arm.
4. To simulate increased effort and fatigue with activity, place a bag of rice in your pockets.
5. To simulate dizziness, spin clockwise around in a circle 4-5 times. Can spin standing up or while seated in a chair
6. To simulate shortness of breath, wear a face mask, nose plugs or breathe through a straw.
7. To simulate disorientation and weakness, wear sunglasses or use a room with dim lighting.

Reflection

1. How did experiencing the simulated heart attack symptoms affect your emotions, sense of vulnerability, and overall understanding of what a real cardiac event might feel like?
2. How might atypical or silent heart attack symptoms affect an older adult’s ability to recognize, respond to, and cope with a medical emergency?
3. Before this simulation, what were your thoughts on aging and heart health? Has this experience shifted your perspective on how older adults navigate cardiovascular challenges?

References

1. Saxon, S. V., Etten, M. J., & Perkins, E. A. (2022). The Cardiovascular System. In *Physical Change And Aging* (7th ed.). essay, Springer Publishing.

2. World Health Organization. (n.d.). *Cardiovascular diseases*. World Health Organization. https://www.who.int/health-topics/cardiovascular-diseases

3. *Do you know the symptoms of a heart attack?*. Cleveland Clinic. (n.d.). https://my.clevelandclinic.org/health/diseases/16818-heart-attack-myocardial-infarction