Mental Health in Cardiopulmonary Rehab

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1

Emotions Affect Heart Health

- Several "negative" emotions have been associated with the subsequent development of Coronary Heart Disease (CHD)
- People with "negative" emotions and CHD have poorer outcomes.
- Challenges to define & measure - consider acute or chronic
  - **Depression**- low mood to suicidal
  - **Anxiety** - worry to panic attacks
  - **Stress** - daily hassles to death of a loved one
  - **Anger** - expressed or repressed
  - **Hostility** - yelling at someone to shooting someone
  - Source: Dr. Jennifer Tremmel, The Impact of Negative Emotions on your Heart, Stanford Medicine

2

Increased Risk due to Emotional Health

- Patients with current depression or anxiety or a lifelong diagnosis of either of these are more likely than patients without these conditions to not only have cardiovascular disease but several cardiac risk factors such as:

- Obesity
  - Patient Health Questionnaire (PHQ-2)
- Asthma
- Diabetes
- Smoking
- Physical inactivity
- Heavy alcohol consumption

Source: CDC: Behavioral Risk Factor Surveillance System

3

After a cardiac event - "The Cardiac Blues"

Common emotions you may experience

Shock
You may find it hard to believe that you have a heart problem.

Anger
You may become frustrated and irritated about the changes in your life.

Denial
You may find it hard to accept that this has happened to you.

Sadness
You may feel low and miserable, or your mood might be up and down.

Worry
You may worry that you will never get back to your old self. You might be fearful about dying.

Relief
You may feel relieved or thankful that your heart condition has been diagnosed and treated.

Guilt
You may feel guilty about being dependent or blame yourself for what has happened.

Adapted with permission from the Australian Centre for Heart Health.

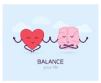
4

Love & Support

- *"People who are lonely and depressed are 3-10 times more likely to get sick and die prematurely than those who have a strong sense of love & community. I don't know any other single factor that affects our health, for better or for worse, to such a degree."* -Dean Ornish, MD
- *Loneliness & social isolation may represent a greater public health hazard than obesity.* - according to research presented at the 125th Annual Convention of the American Psychological Association
- *Approx. 42.6 million adults over the age of 45 in the U.S. are estimated to be suffering from chronic loneliness according to AARP's Loneliness Study.*
  - *Julianne Holt-Lunstad, PhD, professor of psychology at Brigham Young Univ states that "There is robust evidence that social isolation & loneliness significantly increases risk for premature mortality, and the magnitude of the risk exceed that of many leading health indicators."*
  - ScienceDaily, Aug. 5, 2017

5

Cardiovascular responses to stress



- Functional up to a point
- When the response occurs out of proportion to the stressor or continues after the stressor is no longer present, then there are adverse effects on the heart.
- Studies of "negative" emotions and CHD consistently suggest a dose-response relationship between levels of emotion and risk, rather than a threshold effect, therefore patients with subclinical levels of symptoms may still be at an increased risk of CHD
- Source: Dr. Jennifer Tremmel, The Impact of Negative Emotions on your Heart, Stanford Medicine

6

Adverse Childhood Experiences
ACEs

According to the CDC:

- ACEs are common. About 64% of adults in the United States reported they had experienced at least one type of ACE before age 18. Nearly one in six (17.3%) adults reported they had experienced four or more types of ACEs
- ACEs are costly. ACEs-related health consequences cost an estimated economic burden of $748 billion annually in Bermuda, Canada, and the United States~ CDC

https://www.acesaware.org/wp-content/uploads/2022/07/ACE-Questionnaire-for-Adults-Identified-Fillable-rev-7.26.22.pdf - questionnaire
https://www.ted.com/talks/nadine_burke_harris_how_childhood_trauma_affects_health_across_a_lifetime - Nadine Burke TED Talk

7

Key Characteristics

- **Distressing Event or Series of Events** - deeply upsetting
- **Overwhelming Response**-ability to cope is surpassed, leading to profound sense of threat
- **Lasting Impact** - effects are long-term, changing a person's emotions, behaviors, and beliefs
- **Loss of Security** - it often breaks an individual's sense of safety & control

8

Types of Traumatic Experiences

Acute - A single, time-limited event, such as a car accident, assault, natural disaster, the sudden loss of a loved one, or a distressing medical procedure

Chronic - repeated or ongoing traumatic experiences, like long-term abuse, domestic violence, or living in fear

"Little t" - less severe but still impactful experiences such as bullying, verbal abuse, divorce, frequent relocation, or significant academic or work stress

- See the full fact sheet - medical trauma fact sheet for professionals
- See the full fact sheet, - medical trauma fact sheet for survivors ~ International Society for Traumatic Stress Studies

9

Emotions Affect on the Heart

https://www.facebook.com/watch?v=2601964536521874 - 3 mins

10

The Dalai Lama when asked what surprised him most about humanity, answered…

"Man. Because he sacrifices his health in order to make money.

Then he sacrifices money to recuperate his health.

And then he is so anxious about the future that he does not enjoy the present;

the result being that he does not live in the present or the future.

He lives as if he is never going to die, and then dies having never really lived."

11

Stress Management

12

Stress Management

Mindfulness & Meditation

- Stress Management Dr. Dean Ornish - 3 mins

13

Bilateral Stimulation

Bilateral stimulation hinges on a simple yet profound concept:

- By engaging both hemispheres of the brain through rhythmic sensory stimuli,
- It can spark a cascade of neurological changes beneficial for emotional healing.
- The stimulation can be visual, with eye movements tracking a moving object or light; tactile, through alternating taps on the body; or auditory, with sounds alternating between ears.
- Activating both brain hemispheres simultaneously calms the nervous system's fight-or-flight response and inhibits the amygdala, the brain's threat center.
- This bilateral stimulation mimics brain activity during REM sleep, helping the brain process distressing memories, reduce their emotional charge, and promote psychological relief, ultimately bringing emotional balance and focus.
  - EMDR Therapy (Eye Movement Desensitization and Reprocessing
  - Bilateral Tapping
  - Bilateral Sounds

-Trauma Therapist Institute

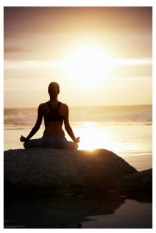
14

Breath Awareness Meditation:

Breathe naturally without controlling your breath. There is no right or wrong way. Notice where you feel it moving in your body. Mentally follow the path of your breath. Notice any temperature change in your nostrils as you breathe. Observe these and any other physical sensations of your breath for as long as you wish. When your mind wanders, kindly direct it back to your breath.

Body Scan:

Close your eyes or soften your gaze. Bring your attention to your feet and soften your feet. Gradually work your way up your body, moving your attention and consciously relaxing each part one by one until your reach the top of your head (alternately, start at your head and work down). Try to set aside judgement, or trying to change or fix things. When you finish, see if you can feel your whole body and relax it all at once from the inside out.



Pretzel:

Cross your dominant ankle over your non-dominant ankle. Stretch your arms out in front of you with palms facing in. Turn your thumbs down with palms turning outward. Cross your dominant arm over the non-dominant arm, lace your fingers, and drop your hands down, pushing elbows out and bringing hands up to your chest. Loosen your fingers if your arms are too tight, or simply cross your arms over your chest instead. Take four breaths, breathing in through your nose and out through pursed lips (as if you were blowing out a candle far away). Focusing on a long, slow exhale.

Box Breathing:

Start by exhaling completely through your mouth & nose. Start box breathing: Inhale slowly for 4 counts. Hold breath for 4 counts. Exhale for 4 counts. Hold breath for 4 counts. Repeat for as long as you need.

15

16

References & Resources

References:

- Heart & Mind, The Practice of Cardiac Psychology, 2nd ed. - Allan, Robert, PhD, & Fisher, Jeffrey, MD
- Love & Survival: The Scientific Basis for the Healing Power of Intimacy - Ornish, Dean, MD.
- Cardiologists Should Care About Our Love Lives - September 14, 2018 - New York Times: Dr. Sandeep Jauhar
- - ScienceDaily, Aug. 5, 2017

Additional Resources

- Meditation Apps: CALM, Insight Timer, Headspace
- [illegible].org - source for huge variety of support topics
- [illegible] - specific therapy for distress
- [illegible] - find a therapist or support group
- [illegible] - social connections

17