HEALTH PRACTITIONERS SERIES

PROVIDING VIRTUAL CARDIAC REHABILITATION DURING COVID-19 PANDEMIC

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During this presentation we will be discussing certain brand name products and apps which are popular choices among our participants.

The presenters of this presentation receive no financial reimbursement from these products.
Cochrane collaborative reviews of CR concluded that there is low to moderate strength evidence that home-based vs centre-based CR programs have similar effects on quality of life and cost among patients with recent MI or coronary revascularization. Also they achieve similar improvements in 3 and 12 month clinical outcomes.

AACVPR/AHA released a scientific statement published in Circulation in July 2019 which stated that although home based cardiac rehabilitation appears to hold promise in expanding the use of CR to eligible patients, additional research is needed to clarify, strengthen and extend the home-based cardiac rehab evidence for key subgroups including older adults, women and underrepresented minority groups.
Virtual CR is home-based cardiac rehabilitation (HBCR) delivered by virtual care mechanisms. Virtual care refers to any interaction between patients and their care team that occurs remotely and utilizes information and communication technologies to facilitate or maximize the quality and effectiveness of care. This includes the use of telephone and video-conferencing communication, email, text or other messaging solutions, smartphone applications, online resources, online platforms, and wearable devices.
The Virtual Cardiac Rehabilitation program was safe and superior to usual care in reducing CVD risk and sustaining this reduction.

Specifically, we report significant improvements in exercise capacity and dietary quality with reductions in cholesterol levels.

S. Lear et al, Circ Cardiovasc Qual Outcomes, Nov 2014
A Norwegian study looked at using Fitness Trackers and smart watches to measure Physical activity in research. They identified 423 unique devices from 132 different brands. Out of the Brands currently available the five most often used in research projects are Fitbit, Garmin, Misfit, Apple and Polar.

Photoplethysmography (PPG) is a relatively new technique in wearables. PPG is optical technique to estimate heart rate by monitoring changes in blood volume beneath the skin. This eliminates the need for a chest strap.

Add global positioning system (GPS) and you can also track position, speed and altitude.

J Med Internet res 2018 vol 20, iss 3, A Henriksen et al.
HOW CAN YOU MONITOR YOUR PATIENT’S PROGRESS FROM HOME?

- Fitbit
- Garmin
- Withings scale
- Nokia
- Apple watch
- Samsung gear
- Suunto
- Polar
- Strava
TOOLS HELP WITH MOTIVATION

- Good for motivation
- Activity tracker
- Steps
- Food Log
- Sleep
TRACKING... SO MUCH MORE THAN HEART RATE

- **DISTANCE**: 2.8 mi
- **TIME**: 36:51 min
- **Average Pace**: 16:08 min/mi
- **Average Elevation Change**: 56 ft
- **Total Elevation Change**: 282 ft
- **Average Speed**: 3.83 mi/h
- **Total Distance**: 2.8 miles
- **Average Heart Rate**: 104 bpm
- **Maximum Heart Rate**: 144 bpm
- **Average Metabolic Equivalent (MET)**: 2.8

**Colors Coded**:
- **GREEN** | Elevation
- **BLUE** | Pace
- **RED** | Heart Rate

**GPS Tracking**
- **Location**
- **Time**
- **GPS Location**
102 hospitalized patients were evaluated at rest using ECG with concomitant smart watch monitoring. (Fitbit and Apple)

Principle findings were Smartwatch demonstrated strong agreements with ECG in sinus rhythm

Smartwatch readings >100 bpm in atrial arrhythmias were closely associated with ECG-HR
NUTRITION TOOLS

Myfitnesspal.com
Unlockfood.ca
Heartandstroke.ca/get-healthy/recipes
diabetes.ca
APPS FOR MANAGING STRESS

- Calm
- headspace
- TEN PERCENT HAPPIER
- Insight Timer
WHAT HAVE WE LEARNED FROM COVID 19 PANDEMIC?

• Adaptability

• Importance of support and encouragement

• Technology has helped us stay connected.

• Opportunity to learn new tools.

• Resilience

• Importance of collaboration and sharing
COVID-19 Resources for Cardiac Patients

Information and resources for cardiac patients for staying active and healthy.

Learn More
THE VIRTUAL CARE PROGRAM
IMPROVEMENTS IN BEHAVIOURS AND RISK FACTORS

▲ FRUITS & VEGETABLES
▲ HDL
▲ MINS OF EXERCISE

▼ ANXIETY
▼ TC/HDL RATIO
▼ WAIST
THE VIRTUAL CARE PROGRAM

THE VIRTUAL CARE CARDIAC REHAB PROGRAM
THE VIRTUAL CARE PROGRAM – FEATURES

LEARN ABOUT HEART HEALTH
Wellness Plan

**Aerobic Exercise**
35 minutes of physical activity (A moment ago)

**Target**
- 20K
- Intermediate Target
- 15K

**Graph**
- 27 Nov
- 29 Nov
- 01 Dec
- 03 Dec
- 05 Dec
- 07 Dec
- 09 Dec

WEEK MONTH 3 MONTHS 6 MONTHS YEAR

ADD TRACKER

MANAGE YOUR RISK
THE VIRTUAL CARE PROGRAM – FEATURES

CONNECT WITH OTHERS
THE VIRTUAL CARE PROGRAM – FEATURES

POPULATION MANAGEMENT
Due to COVID 19 currently we are not able to assess blood work or do stress testing.

Instead we are discussing cardiac risk factors and giving people general recommendations for exercise and strength training.

Our randomized trial to compare two home program options is on hold.
FEEDBACK FROM PARTICIPANTS AND HEALTH COACHES

- Personalized model
- Support and encouragement
- Portable
- Accountable
- Easy to access reliable information in online Library
• Convenient
• Flexible
• Trackers allows technology to tell us about every day
• No parking hassles, no need to drive
• Messenger makes contact very easy
• “Whole picture in one place”
SOME BENEFITS OF CENTRE BASED CARDIAC REHAB

- Onsite CR Proven effective
- Practice monitoring skills
- Social aspect/ camaraderie
- Safety
- Volume of contacts made
- Dedicated time can create structure
- Onsite better when not comfortable with technology, can be overwhelming
CONCLUSION

- Use Technology
- Use Motivational interviewing
- Shape behaviour
- Gradual habit change
- Support and encouragement
- Continue to follow guidelines and recommendations for specific cardiac populations
- Research opportunities