Gamification and mHealth: 
a model to bolster cardiovascular disease self-management

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CORONARY HEART DISEASE (CHD)

- Cardiovascular disease = 1st cause of mortality (33%)
  
  About ≈50% from CHD

- Driver of healthcare costs

- CHD = lifestyle disease

OFSP, 2014
THE CHALLENGE

1 year after an acute coronary syndrome:

• >75% of patients do not meet the recommended amount of regular physical activity (150 min/wk)
• >75% of patients with a BMI >25 kg/m² do not reach the minimal 5% recommended weight loss
• 50% of patients who initially quit have resumed smoking

Data from the ELIPS registry
GAMIFICATION
GAMIFICATION (2)
OBJECTIVE

Context: cardiac rehabilitation program and follow-up

• To create a gamified health model to help implement and maintain behavioral changes for chronic disease self-management

Smart-ACS:
a smartphone app to help individuals with coronary heart disease adopt and maintain healthier lifestyles
METHOD

• Validated health behavior model for chronic disease self-management
• Survey
• Focus group
• Analysis
HEALTH ACTION PROCESS APPROACH (Schwarzer et al.)

Diagram showing the HEALTH ACTION PROCESS APPROACH with components such as Outcome expectancies, Risk perception, Intention, Action planning, Coping planning, Recovery self-efficacy, Action control, Action, Disengagement, Barriers and resources, Preintenders, Intenders, Actors.
PATIENT SURVEY

37 patients from focus group sessions during cardiac rehabilitation

• Age group mainly 40-70 yo
• Predominantly male (70%)
• 70% married
WHAT DIFFICULTIES DO PATIENTS FACE?

• 76% anxious about symptoms recurring

• >50% challenged by dietary habits:
  – What and how to change?

• 40% want help to quit smoking
WHAT WOULD PATIENTS LIKE?

• Nearly 90% want more practical advice
• ~ 50% want help with their meds
• ~ 30% want social support from peers
FOCUS GROUP

• Importance of understanding the disease and keeping up to date with new options
• Rewards could help maintain changes
• Dietary concerns: need for more practical information of what and how to change this behavior
• Little feedback on efforts overall

Thematic analysis of motivation and barriers to lifestyle changes

50 y (32-62)
PUTTING IT ALL TOGETHER: OUR GAMIFIED HAPA MODEL
NEXT STEPS

Smart-ACS

THANKS!

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