Current status of cardiac rehabilitation and secondary prevention for coronary heart disease patients in mainland China: results from a mixed-methods study

Tashi Dorje¹, MD         Lhamo Tsogy³, MD
Gang Zhao³, MD          Junbo Ge³, MD
B-K Tan², PhD          Andrew Maiorana¹, ⁴, PhD

1. School of Physiotherapy and Exercise Science, Curtin University
2. School of Public Health, Curtin University
3. Cardiology Department, Zhongshan Hospital Fudan University
4. Allied Health Department and Cardiology Department, Fiona Stanley Hospital
❖ Economy growth rates averaging 10% over 30 years
❖ Industrialization, urbanization and adverse lifestyle changes
❖ Rapid increase of cardiovascular disease (CVD)

Current CVD status in China

- 20 million coronary heart disease
- 270 million hypertension
- Total CVD population > 300 million
Study design

A mixed-methods study

Face-to-face patient interview (n=200)
Confirmed coronary heart disease, received percutaneous intervention therapy (PCI) at least six month prior current admission

Focus group discussion (6-8 pts * 7 group)
Barriers and facilitators for CR/SP services
Acceptability to smartphone-based CR/SP

Medical staff survey (n=105)
Cardiologists, nurses and other Clinical staff
“My cardiologist never mentioned CR to me, he just told me to do regular follow-up, taking all the medication. Even if he told me, there is no such service in the hospital.” - Pt. 5

“My son puts me in a rehabilitation program at a private hospital, we had to pay from our own pocket, and he spent a lot money for the service.” - Pt. 7
Results and findings (patients)

Physical activity

Grid and findings (patients)

Time you resumed physical activity?

- **2%** within 2 weeks
- **53%** 2-4 weeks
- **20%** 4-12 weeks
- **25%** > 12 weeks

❖ “We heard people saying that after PCI, you need avoid vigorous exercise for at least three months, otherwise the newly implanted stent may dislocate and cause problems.” - FGD 2

❖ “I am too scared to walk or run, my heart is already very weak, I need to rest as much as possible to let my heart recovery.” - Pt. 15

❖ “Nobody told me when and how to do exercise, so I just walk as much as I can every day. I think it will be beneficial to my health.” - Pt. 18
Results and findings (patients)
Healthy eating

Have you received dietary advice during hospital stay?

- “All I was told by doctor and nurse was to eat light, avoid fat meat and eat more vegetables, but no detailed information was given.” - Pt. 25

- “I stopped eating eggs after my heart attack, nowadays, I am very careful with my food, I grow my own vegetable and eat only imported beef from the U.S.” - Pt. 27
Results and findings (patients)
Smoking cessation

Your Current smoking status?

- Current Smoker: 29%
- Ex-smoker: 19%
- Non-smoker: 52%

Have you received tobacco cessation advice?

- YES: 38%
- NO: 62%

❖ I still can’t believe that smoking caused my heart problem, Chairman Mao smoked throughout his life without suffering from coronary heart disease. - Pt. 18

❖ I know smoking is bad for health, but no doctor taught me how to quit, all they say is you need to be tough to yourself and determined. Anyway, I have tried very hard in last six months, but its not that easy. - Pt. 22
Results and findings (patients)
Medication adherence

❖ “I stopped taking medication three month after the operation, because I felt good and never experience any chest pain after the stent was implanted. I strongly believe that PCI therapy has cured my heart disease.” - Pt. 31

❖ “Statin are very bad to liver, so I am scared to take it. Now I am taking traditional medicine instead. I think its working very well!” - Pt. 16

❖ “Every two week I need travel three hours to this hospital to get the five medications, it’s inconvenient. But I have no other options, so I will keep coming.” - Pt. 4
Results and findings (patients)
CR/SP needs at least 6 months post PCI

❖ “I am totally lost after PCI. How long should I take these medications? Can I run as usual? Can I travel by airplane? To be honest with you, I don’t know.” - Pt. 42

❖ “It’s very hard to get advice from highly qualified doctors, to come here, every time I have to queue for at least three hours for the 5 to 10 minutes consultation with a cardiologist, and most time they don’t have time to answer my questions.” - Pt. 39
Results and findings (Medical staff)
Perceptions of CR/SP

CR/SP is underdeveloped in China

- 44% Strongly agree
- 43% Agree
- 11% Disagree
- 0% Strongly disagree

Obstacles for developing CR/SP

- 43% Patient factors
- 31% Health system factors
- 24% Care giver factors
- 2% Neutral
- 2% Strongly disagree
Results and findings (Medical staff)
Post PCI care and patient self management

Uncontrolled risk factors were common in patients

- 0% Strongly agree
- 4% Agree
- 27% Disagree
- 23% Strongly disagree

Medication adherence is poor in patients

- 0% Strongly agree
- 6% Agree
- 15% Disagree
- 25% Strongly disagree
Results and findings
Feasibility of smartphone and social media-based CR/SP

- Patients: 31% NO, 69% YES
- Medical staff: 14% NO, 86% YES
Next step

Smartphone and social media-based cardiac rehabilitation and secondary prevention program: The SMART-CR/SP Study
Next step

Smartphone and social media-based cardiac rehabilitation and secondary prevention program: The SMART-CR/SP Study
Thank you!