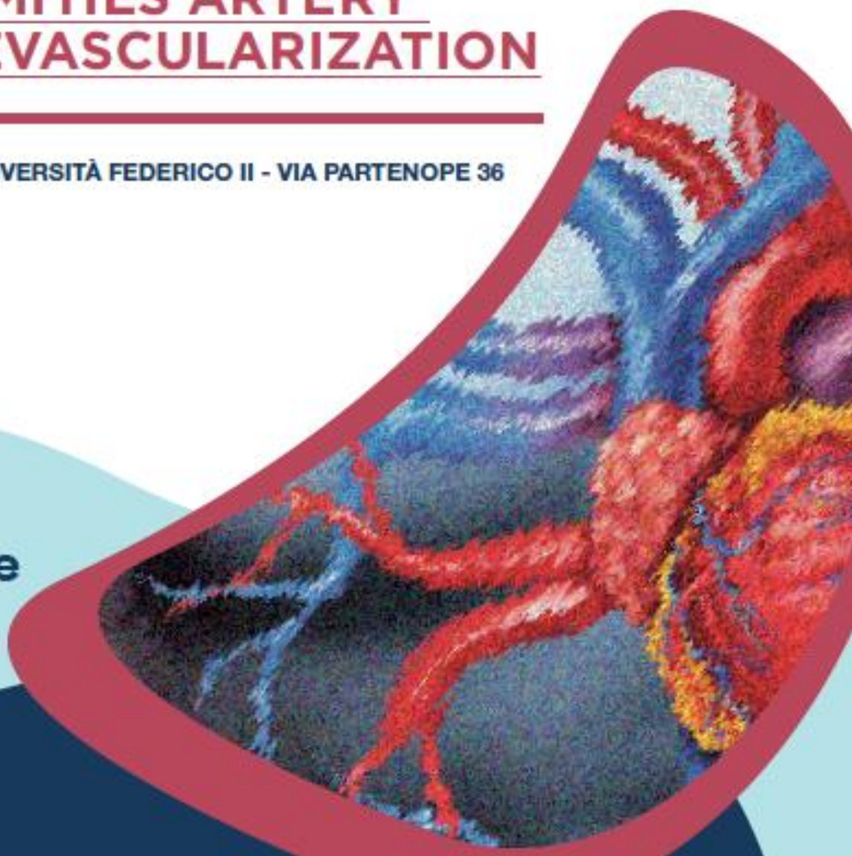
THE ADHERENCE TO MEDICAL THERAPY AFTER LOWER EXTREMITIES ARTERY DISEASE REVASCULARIZATION

CENTRO CONGRESSI UNIVERSITÀ FEDERICO II - VIA PARTENOPE 36



Napoli
25 novembre
2021

Il ruolo dell’aderenza terapeutica nelle malattie Cardiovascolari

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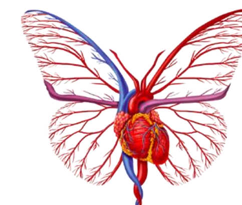

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Cardiovascular Disease

Together, heart disease, stroke, and other vascular conditions contribute to:

> 850,000 lives lost each year[1]

> 650,000 lives lost annually to heart disease[1]

> $350 billion spent annually towards costs and lost productivity from premature death each year[1]

1 in 7 U.S. dollars spent on health care goes towards cardiovascular disease (CVD)[2]

1. VITRANI SS, ALONSO, BENJAMIN EJ, BITTENCOURT MS, ET AL. HEART DISEASE STATISTICS- 2020 UPDATE: A REPORT FROM THE AMERICAN HEART ASSOCIATION. CIRCULATION. 2020;141:E1-E458. DOI: 10.1161/CIR.0000000000000757.
2. VIRANI SS, ALONSO A, BENJAMIN EJ, BITTENCOURT MS, CALLAWAY CW, CARSON AP, ET AL. HEART DISEASE AND STROKE STATISTICS-2020 UPDATE: A REPORT FROM THE AMERICAN HEART ASSOCIATION. CIRCULATION. 2020;141(9):E139-596. DOI: 10.1161/CIR.0000000000000757.

Where Do We Start??

Psychosocial Stressors

Depression

Elevated BMI

HTN

DM

Lack of Activity

Smoking

Heart Disease

Adapted from: Kerr, J., Weitkunat, R., & Moretti, M. (2005). *ABC of behavior change: A guide to successful disease prevention and health promotion.* Edinburgh ; New York: Elsevier Churchill Livingstone

Defining Adherence

"The extent to which a person's **behavior** (taking medication, following a diet, or making healthy lifestyle changes) corresponds with **agreed**-upon recommendations from a health-care provider"

World Health Organization, 2003

Defining Medication Adherence

"The patient's conformance with the provider's recommendation with respect to **timing, dosage,** and **frequency** of medication-taking during the **prescribed length of time**"

Agency for Healthcare Research and Quality

Remember this…

“Drugs don’t work in patients who don’t take them.”

- C. Everett Koop

Medication Adherence Statistics

- Approximately 20 to 30% of prescriptions are never picked up from the pharmacy
- 50% of medications for chronic diseases are not taken as prescribed
- An estimated 10% of hospitalizations in older adults may be caused by medication non-adherence
- Up to $300 billion of avoidable health care costs have been attributed to non-adherence in the US annually
- A retrospective claims-based study of 1,705 patients with diabetes and hyperlipidemia showed that adherence decreased all-cause medical costs by 15%

Sokol MC, McGuigan KA, Verbrugge RR, Epstein RS. Impact of medication adherence on hospitalization risk and healthcare cost. Med Care. 2005 Jun; 43(6):521-30.
Wu J, Seiber E, Lacombe VA, Nahata MC, Balkrishnan R. Medical utilization and costs associated with statin adherence in Medicaid enrollees with type 2 diabetes. Ann Pharmacother. 2011 Mar; 45(3):342-9.
Iuga A, McGuire M. Adherence and Health Care Costs. Risk Manag Healthc Policy. 2014; 7: 35–44.

The Problem With Non-Adherence

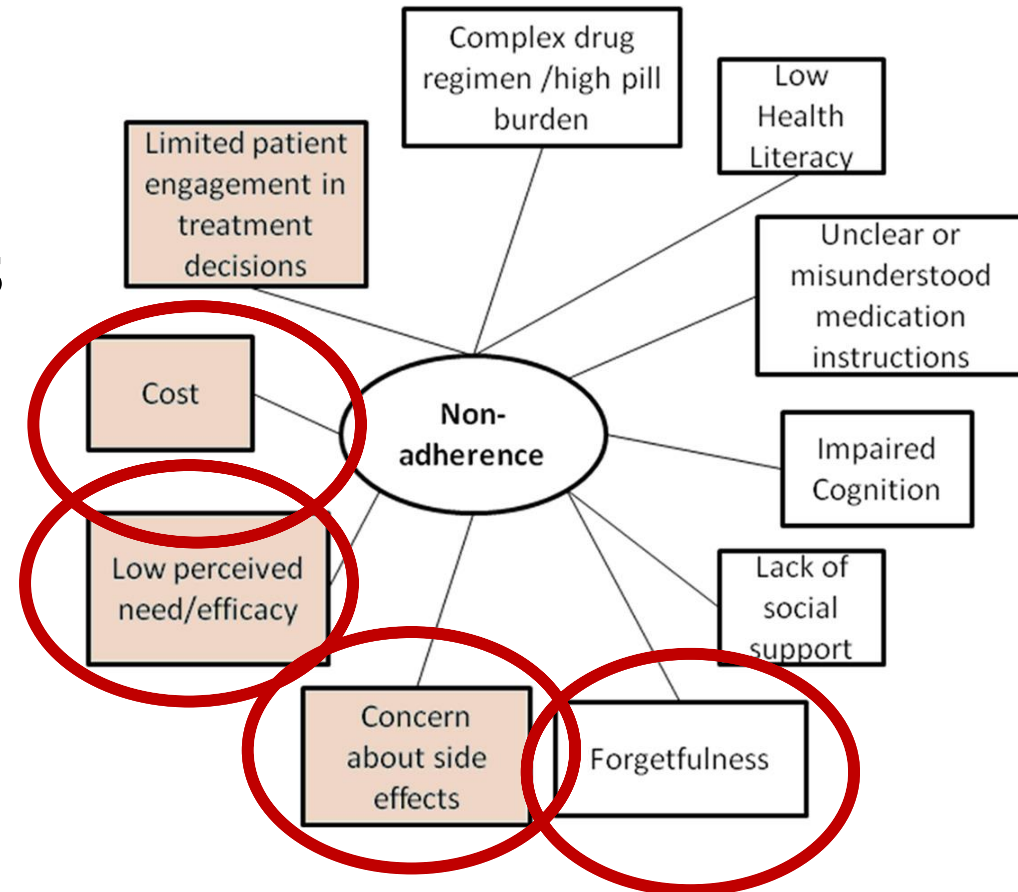
- Clinical/Health Outcomes
  - Poor therapeutic outcomes
  - Further disease progression
  - Decreased quality of life

- Economic Outcomes
  - Increased costs to healthcare system
  - Increased hospitalization
  - Increased frequency of Emergency Department visits
  - Increased physician visits
  - Loss of productivity

Most Common Reasons for Non-Adherence

- Forgetfulness
- Concern about side effects
- High drug costs
- Perceived lack of efficacy

or low need



How Can We Predict Adherence?

Organizational Context

Healthcare Encounter

Social Context

Insurance Coverage

Treatment Modality/ Disease Characteristics

Social Support
Social Barriers

Personality
Health Beliefs
Attitudes

Patient & Provider Interactions

Asking About Adherence

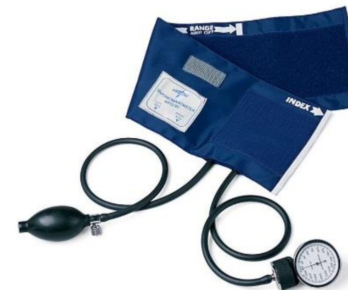
- Most people forget sometimes. How often do you forget to take your medicine?
- When you feel better, do you sometimes stop taking medicine?
- When you feel worse, do you sometimes stop taking your medicine?

Adapted from Morisky Scale (1986)

Types of “Objective” Data

Objective Recordings

Laboratory Values



Self-Management Training

Monitor

Assess

Compare
with Goal

YES

Goal Met?

NO

Reward

Plan Ahead

Address Specific Barriers

- What might be specific barriers to adherence?
- A few patients will need true exposure treatment (refer to behavioral health) for phobias (needles, taking pills)
- Help patients set reminders if they are forgetful

But Doc…

I hate taking pills.
It seems like every time I come to the doctor I get MORE pills!

- Acknowledge taking pills can be difficult.
- Re-focus on why the medicine is important.
- Brainstorm options: taking with food, consulting with pharmacy regarding possible decreases in quantity of pills.

Importance of treatment adherence in secondary prevention

Study promoted by the ESC with almost 2.000.000 patients included

Only **60%** of included patients were **good adherents***

The good adherence to CV medication led to:

- **20% reduction of CVD risk**
- **35% reduction of all-cause mortality**

9,1% of all the events are due to poor adherence in patients with prescribed cardiovascular medications.

Metanalysis of 44 prospective studies, comprising 1,978,919 non-overlapping participants with CVD: 135,627 CVD events, 94,126 cases of all-cause mortality.
*Good adherence: ≥80% taking medication.

Chowdhury et al. Eur Heart J 2013

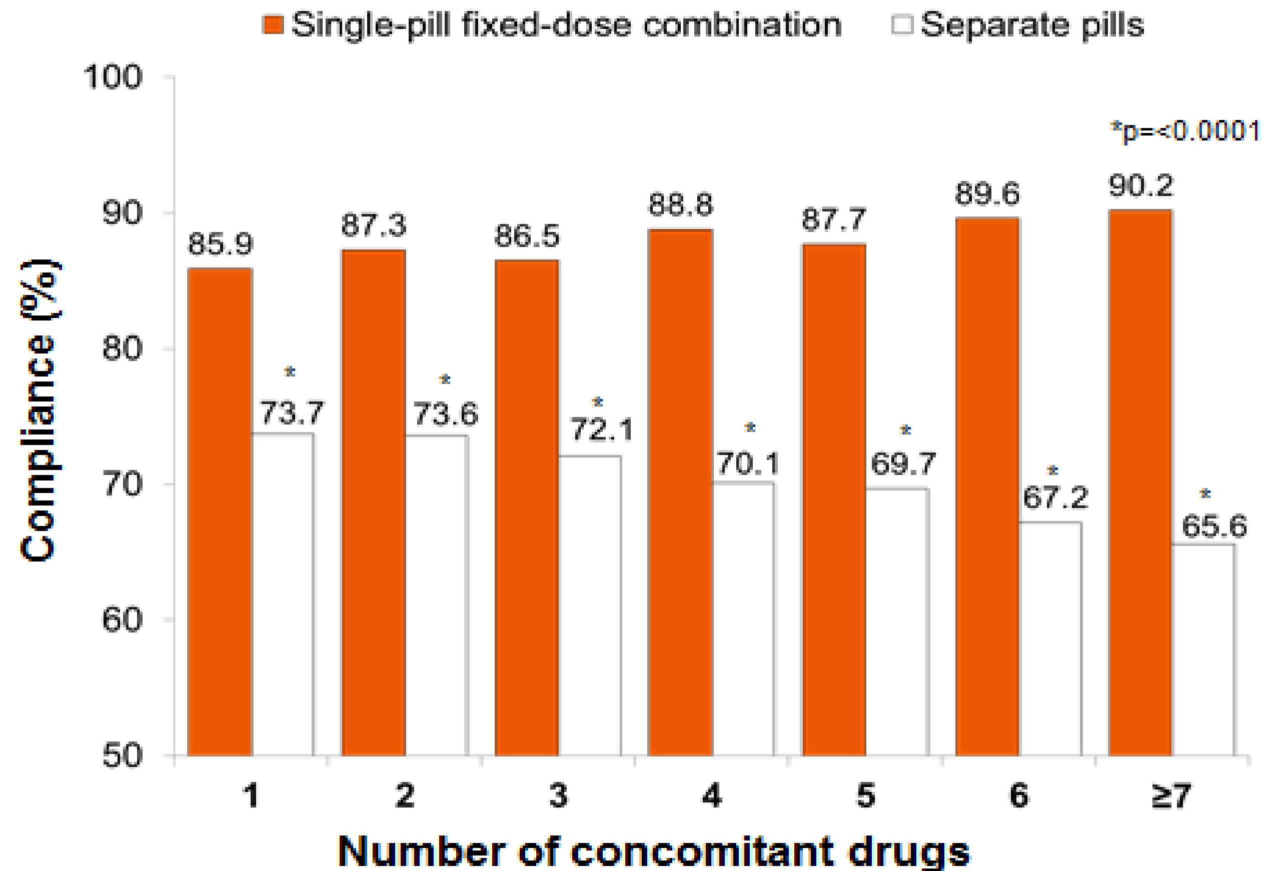
Patient-related barriers	Physician-related barriers	Health care system-related barriers

Voluntary
• Lack of understanding of current disease condition
• Difficulty accepting disease severity
• Previous negative experience to therapy
• Skeptical on recommended treatment efficacy
• Poor trust in the health care provider
• Cultural and ethnic beliefs
 	
Involuntary
• Low level of health literacy or education
	• Complex medication regimen
	• Poor awareness about patient adherence
	• Insufficient explanation to patients about their medical condition and medications (benefits, side effects, time needed for medication to work, etc)
	• Multiple physicians providing varying and possibly conflicting details to the patients
	• Specialty of prescriber
	• Poor understanding between patient and physician
		• The economics of health care systems restricts the time spent between the physician and the patient. This results in insufficient time to
		  ○ Provide proper patient education (about their medical condition or medication)
		  ○ Assess patient medication-taking behavior
		  ○ Address patients' concerns
		  ○ Offer encouragements and tips to improve adherence
		• Cost of medication
		• Insufficient clinical monitoring

Lansberg P et al. Nonadherence to statins: individualized intervention strategies outside the pill box. Vascular Health and Risk Management 2018:14 91–102.

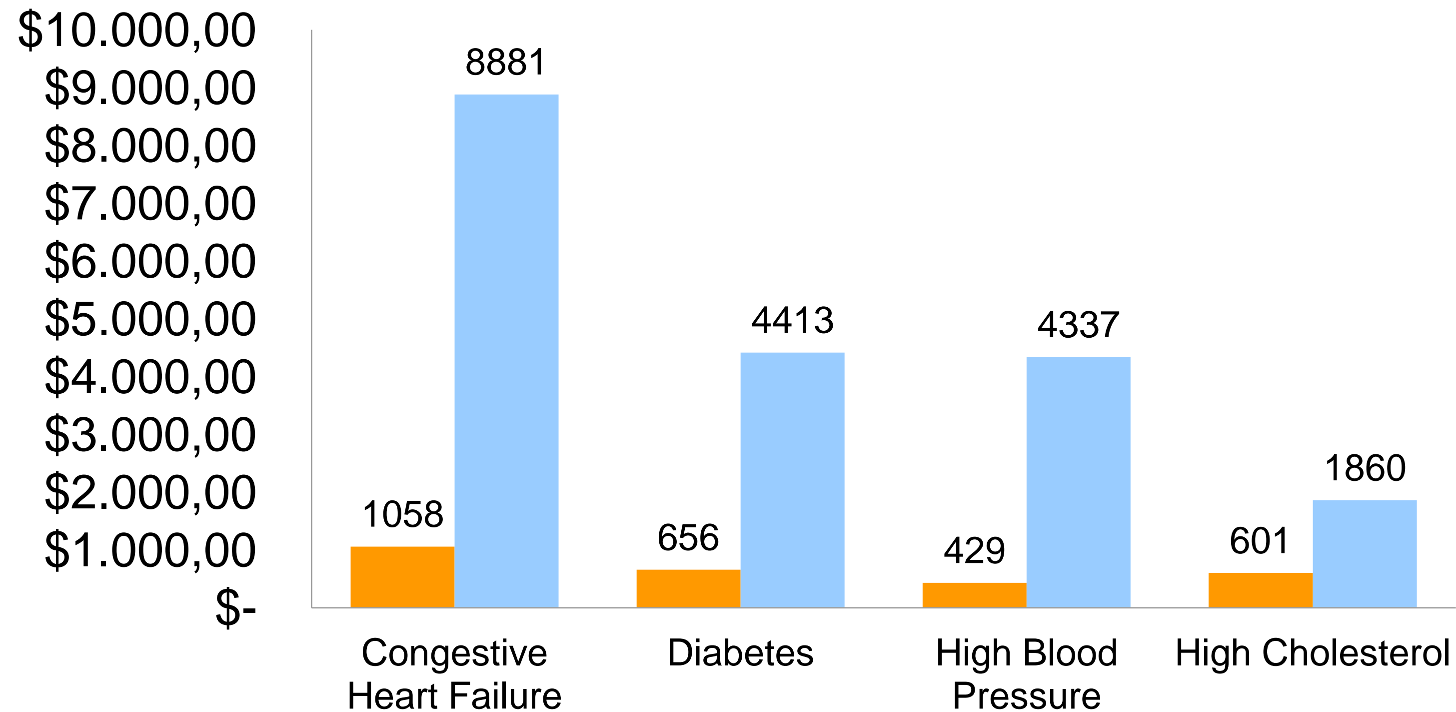
Pill burden is one of the major factors associated with poor adherence

Compliance has been shown to decrease as pill burden increases



Lachaine, Petrella, Merikle, et al. *Can J Cardiol* 2008;24:269–73
Gerbino and Shoheiber. *Am J Health Syst Pharm* 2007;64:1279–83

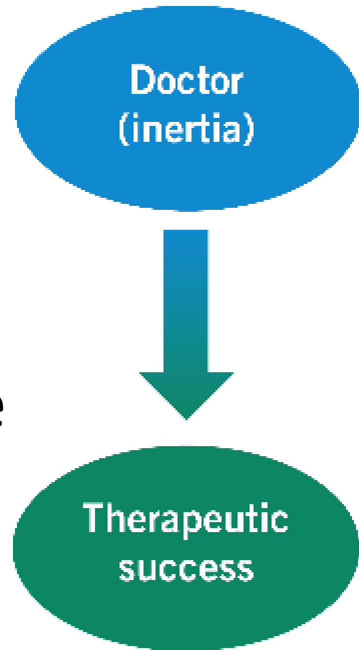
INCREASED ADHERENCE, WHILE INITIALLY INCREASING PHARMACEUTICAL SPENDING, REDUCES HOSPITALIZATIONS AND OVERALL HEALTHCARE COSTS IN THE LONG TERM



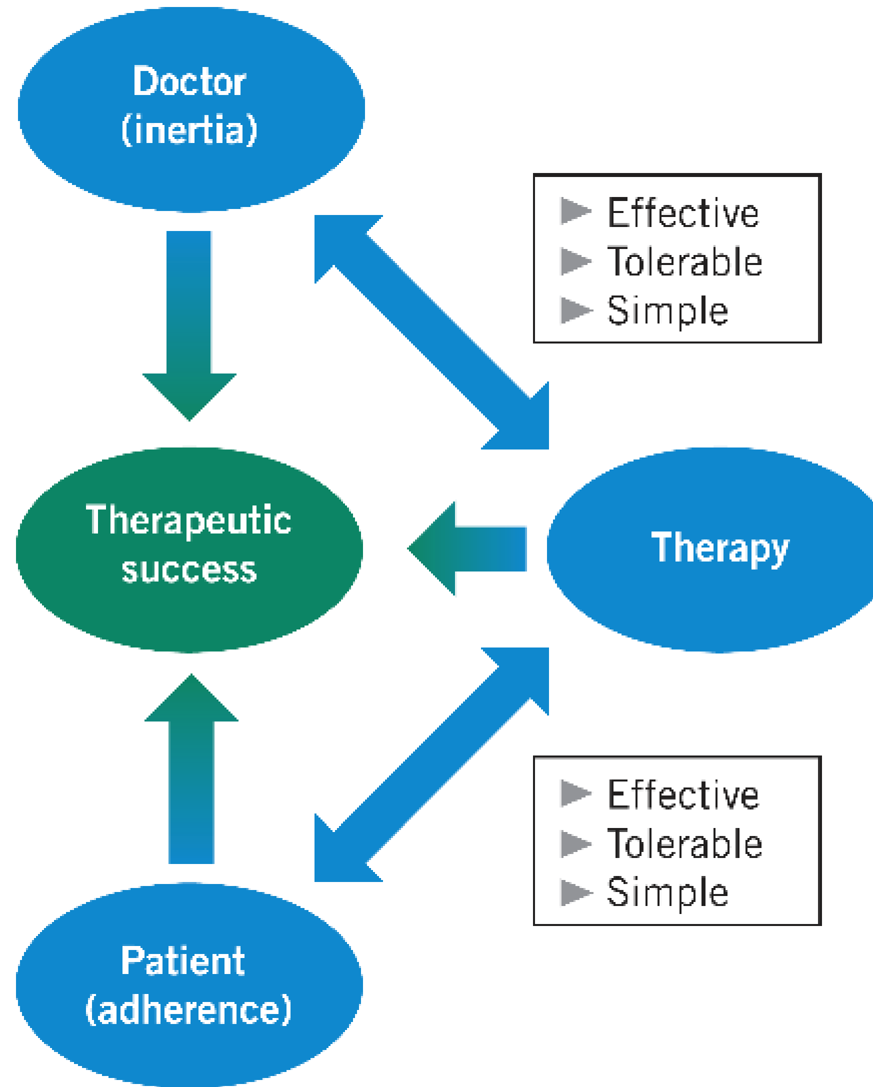
Roebuck MC, et al. Health Affairs 2011;30(1):91-99.

Key determinants of therapeutic adherence

The patient must be the protagonist of the therapeutic project



Key determinants of therapeutic adherence



THERAPEUTIC ADHERENCE

EUROASPIRE V

Cardiovascular prevention requires a modern preventive cardiology programme with appropriate adaptation to medical and cultural settings in each country. All patients with CHD, or any other form of atherosclerotic disease, should be guaranteed access to such a programme **delivered by interdisciplinary teams** of healthcare professionals – nurses, dieticians, physiotherapists or physical activity specialists, psychologists and physicians - **addressing all aspects** of lifestyle, blood pressure, lipids and glucose management, **and adherence** to cardio-protective medications, in order to reduce their risk of recurrent cardiovascular events, improve quality of life and prolong survival.

European Journal of Preventive Cardiology
2019, Vol. 26(8) 824–835

A simplified dosing regimen improves therapy persistence

% pazienti aderenti

100
90
80
70
60
50

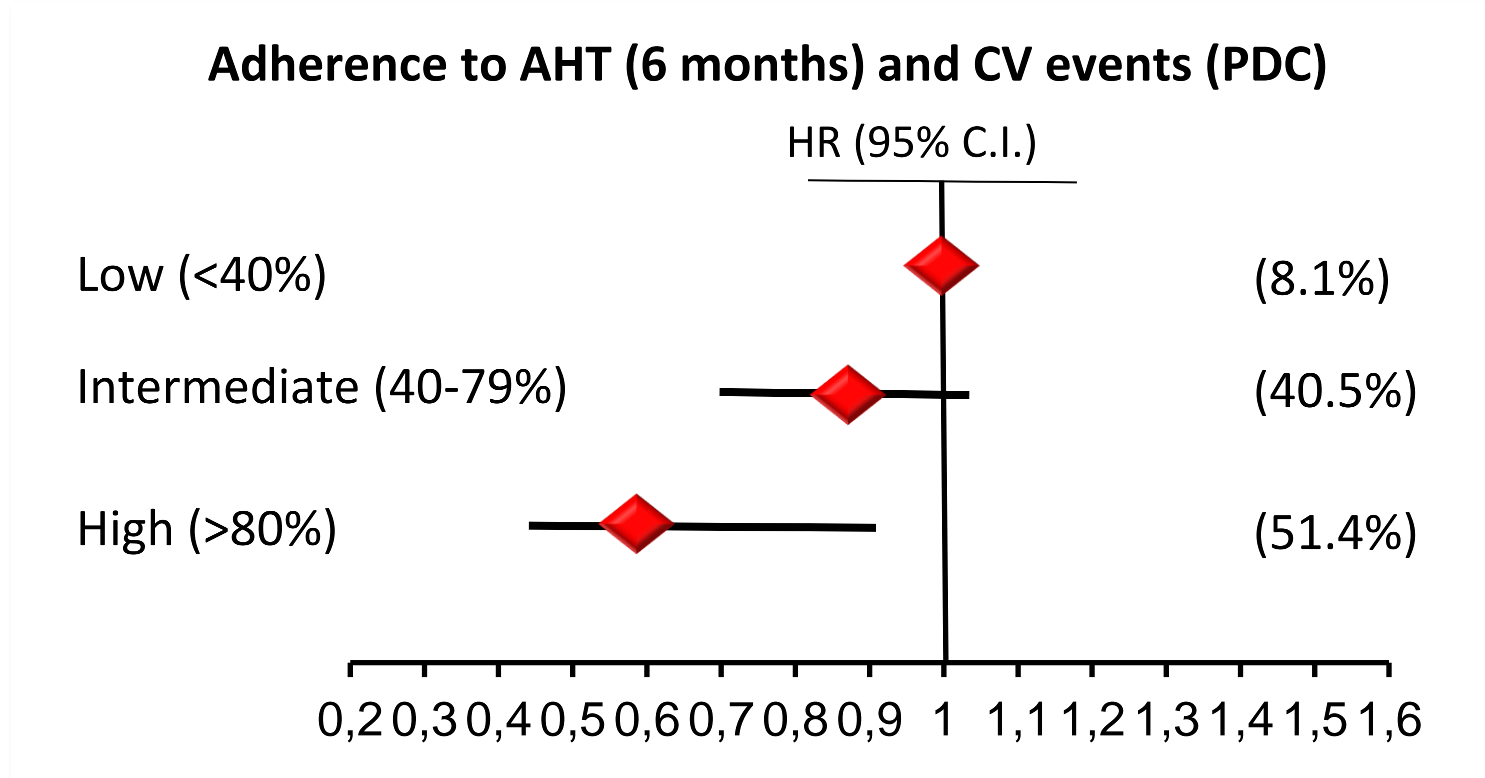
Terapia di combinazione
Terapia con due farmaci separati

0 1 2 3 4 5 6 7 8 9 10 11 12

Mesi dall'inizio del trattamento

Dezii CM. Manag Care. 2000;9 (suppl):S2-S6.

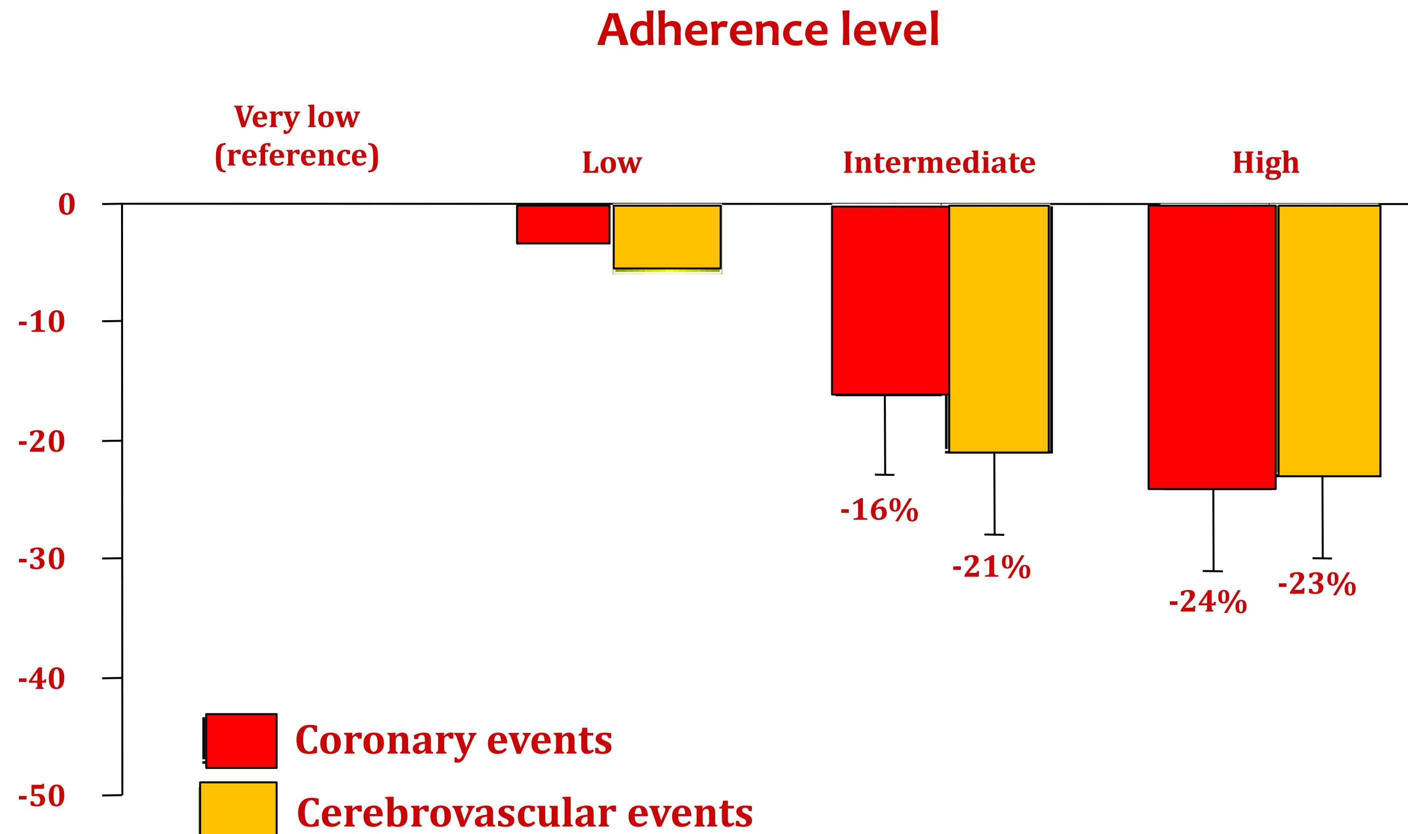
Poor adherence to antihypertensive treatment in the medium term (6 months) is associated with an increased risk of events compared with subjects taking at least 80% of prescribed antihypertensive medication



18.806
Newly diagnosed hypertensives, recently treated for hypertension, and initially free of cardiovascular disease

Mazzaglia G, et al. Circulation 2009

Effects of Persistence/Adherence with Antihypertensive Drug Therapy on the Reduction in HR of Coronary (n = 6665) and Cerebrovascular (n = 5351) Outcomes in 242.594 Patients



Corrao et al. J Hypert 2011; 29: 610-618

Heroes of secondary prevention: the «Fantastic Four»

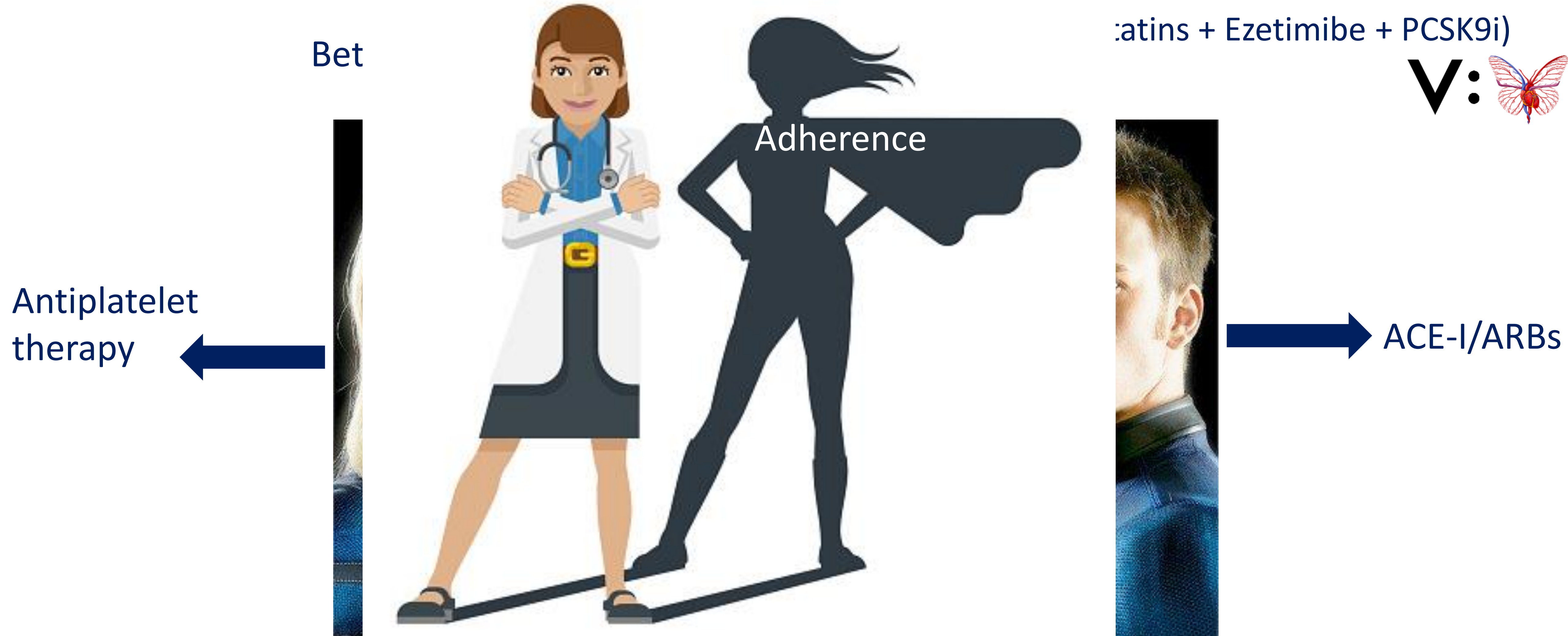
Statins

Beta-blockers

ACE-I/ARBs

Antiplatelet therapy

Current secondary prevention: the « Fantastic Four »



DURING AND AFTER COVID-19 PANDEMIC…

NEW THERAPEUTIC NON-PHARMACOLOGICAL STRATEGIES?

TeleHealth as opportunity to improve ADHERENCE

#CardioUpdate2021

30 Novembre
1 Dicembre
Caserta, Grand Hotel Vanvitelli

SAVE THE DATE

Grazie dell’attenzione…

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