A nurse coordinated prevention program

Experience from the RESPONSE trial

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Introduction

1. Overview RESPONSE trial
   Background, methods, results.

2. Running a Nurse-Led Prevention Clinic (NLPC) personal experience, pitfalls.

3. “Response on Depression and Anxiety”
   The Eindhoven Depression & Anxiety Study
   Background, methods, results, discussion.

RESPONSE TRIAL:

RANDOMISED EVALUATION OF SECONDARY PREVENTION BY OUTPATIENT NURSE SPECIALISTS.

Effect of a nurse coordinated prevention program on cardiovascular risk after an acute coronary syndrome

ACADEMIC MEDICAL CENTER
UNIVERSITY OF AMSTERDAM, THE NETHERLANDS
ESC 2010 STOCKHOLM

Background

- Secondary prevention may effectively prevent cardiovascular events.
- Guidelines have been issued by ESC, AHA/ACC.
- A gap exists between these guidelines and clinical practice.
- New, practical initiatives are needed to reduce this gap.

Study design

Study goal:

- To quantify the impact of a nurse coordinated prevention program on risk factor levels in patients with a recent coronary event

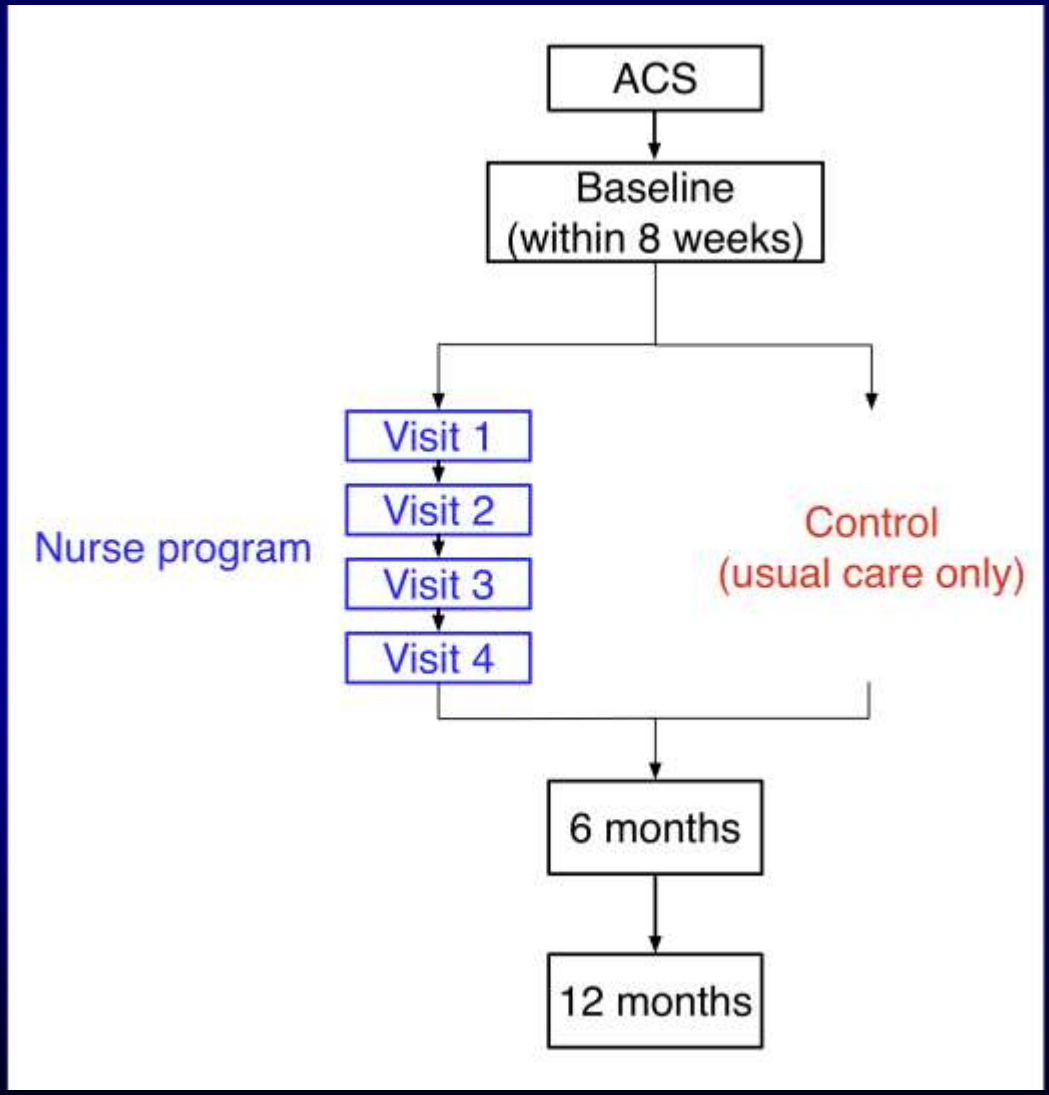
Population

- Patients 18-80 years (n=754)
- ACS within 8 weeks before inclusion

Main outcome

- SCORE 10 year risk of cardiovascular mortality at 12 months after index event

Study flowchart



Targets Nurse Intervention

	Risk factor	Target
1.	Body mass index	<25 kg/m2
2.	Waist circumference	♀ ≤80 cm, ♂ ≤94 cm
3.	Systolic blood pressure	<140 mmHg
4.	LDL cholesterol	≤2.5 mmol/L
5.	Smoking status	Not smoking
6.	Physical activity	5x/w ≥30 min moderate intensity
7.	Alcohol consumption	♀ ≤2 u/day, ♂ ≤3 u/day
8.	Vegetable consumption	≥200 grams daily
9.	Fruit consumption	≥2 pieces daily
Plus	Adequate preventive medication	
	Diabetes screening	

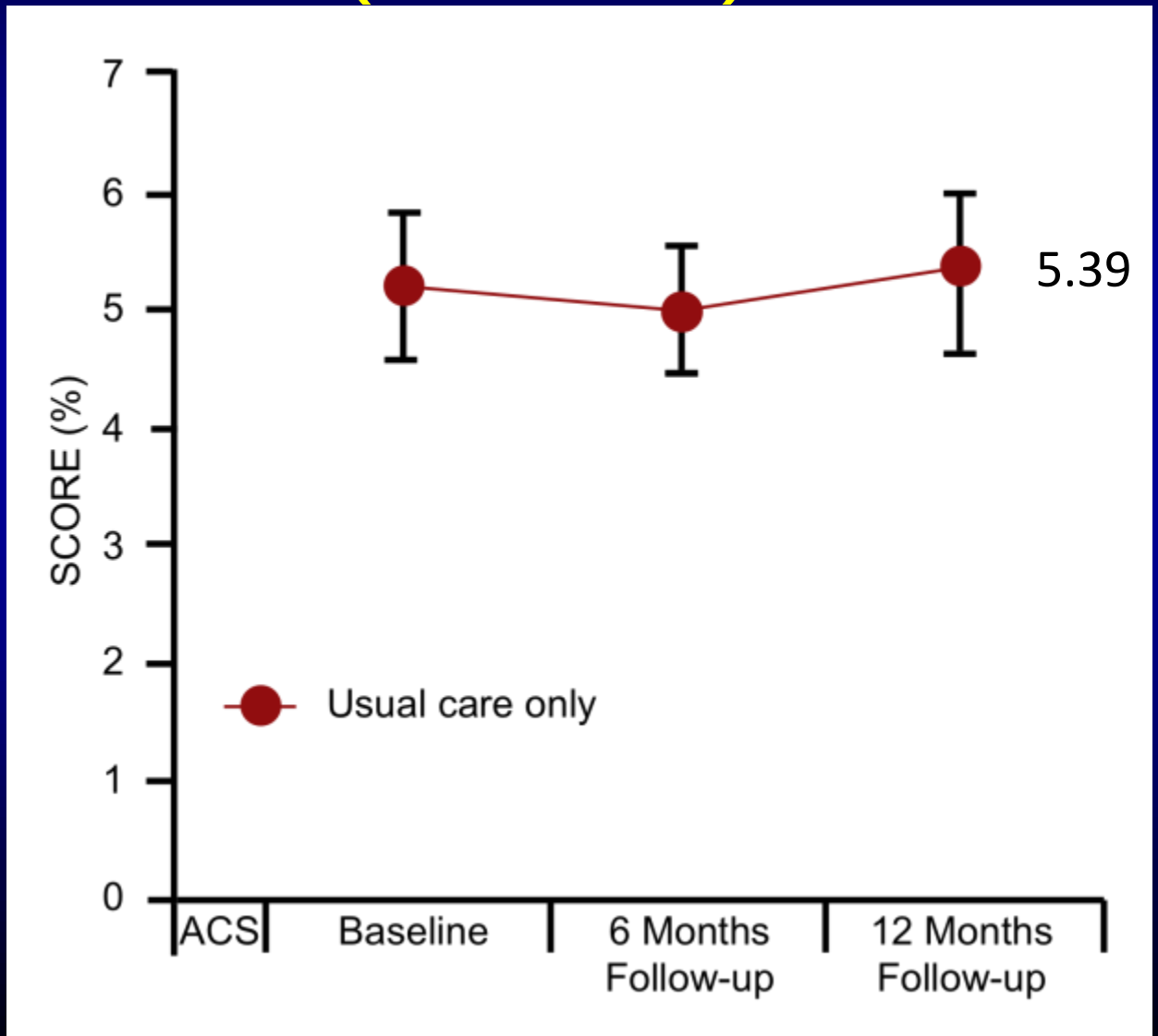
Primary outcome

SCORE risk estimate at 12 months

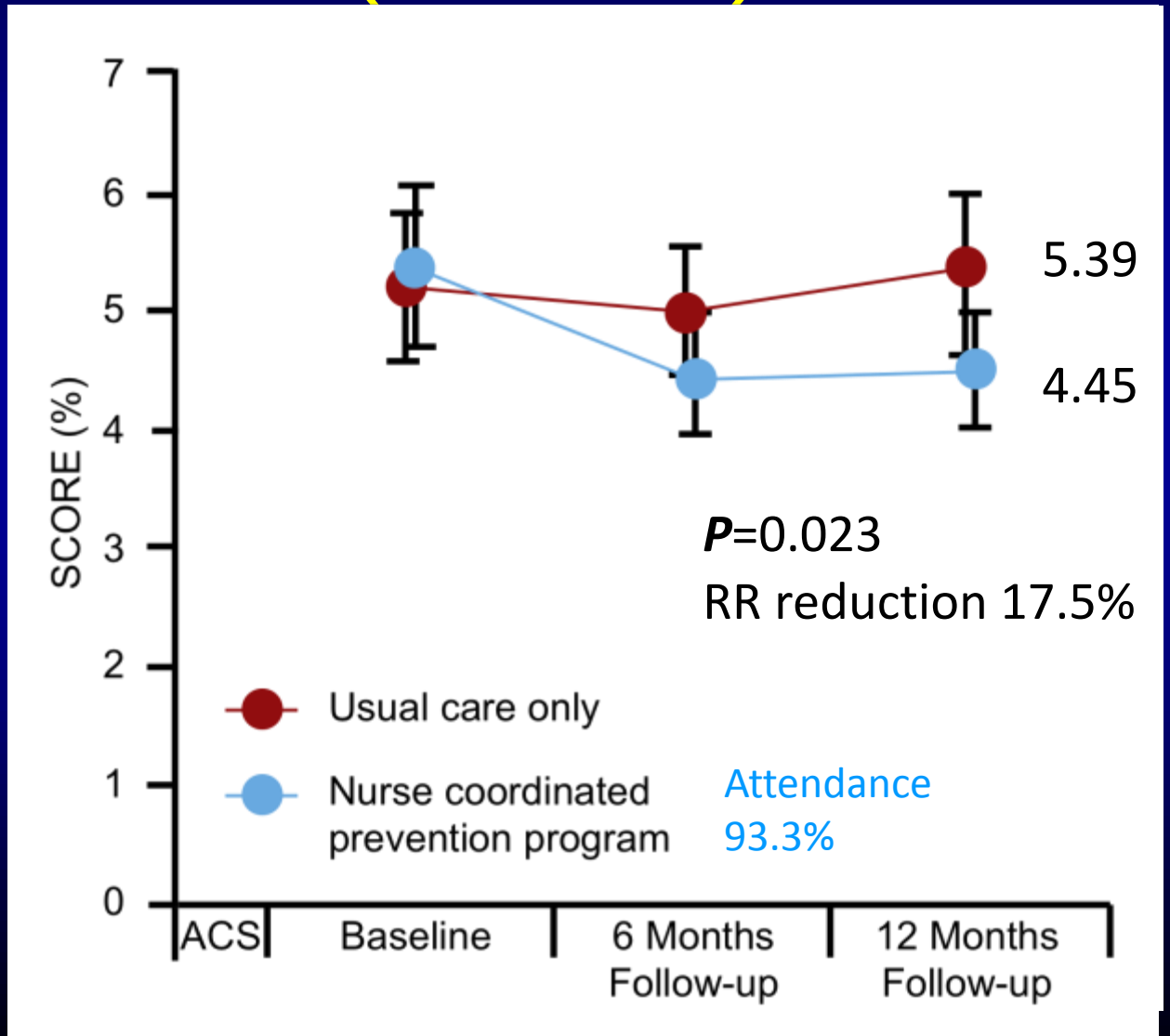
- 10-year cardiovascular mortality
  - Gender & Age
  - Smoking status
  - Total cholesterol
  - Systolic blood pressure

- SCORE risk parameters measured by independent research personnel

Calculated 10 year CV mortality (SCORE)



Calculated 10 year CV mortality (SCORE)

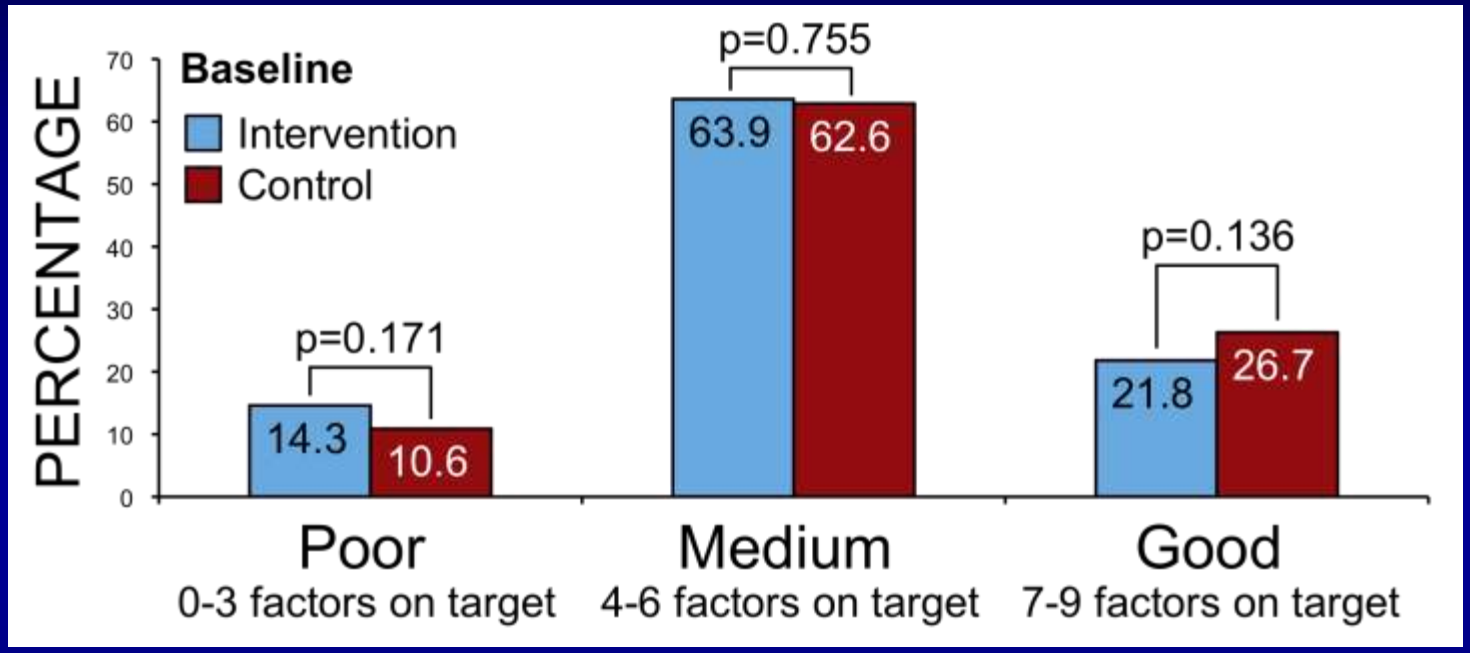


Achievement of risk factor targets

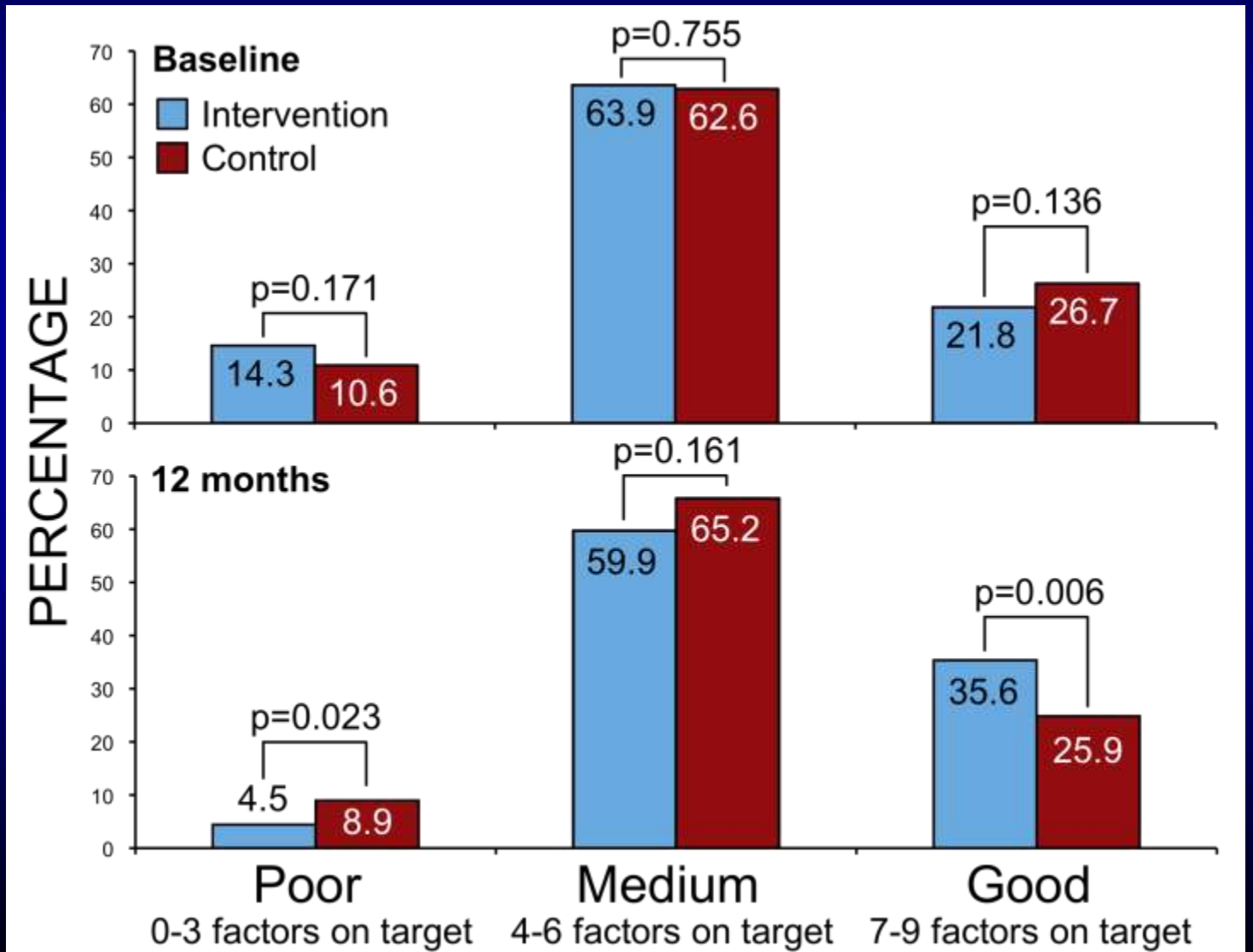
	Baseline		12 months follow-up		12 months p value
	Nurse group (n=366)	Usual care (n=367)	Nurse group (n=358)	Usual care (n=348)	
Nurse targeted parameters					
Body mass index ≤25 kg/m2	23%	29%	20%	26%	0.06
Waist circumference ♂ ≤94 cm, ♀ ≤80 cm	20%	27%	22%	24%	0.47
Systolic blood pressure ≤140 mmHg	68%	73%	75%	61%	<0.001
LDL-cholesterol ≤2.5 mmol/L	67%	67%	73%	64%	0.009
Current smoker(a)	46%	43%	23%	25%	0.72
Physical activity ≥30 min, ≥5 times per week	51%	50%	66%	52%	<0.001
Alcohol consumption ♂ ≤3 units per day, ♀ ≤2 units per day	95%	93%	98%	96%	0.18
Vegetables ≥200 g per day	71%	66%	81%	71%	0.002
Fruit ≥2 pieces per day	80%	84%	94%	85%	<0.001
Other parameters					
Triglyceride ≤2.0 mmol/L	80%	80%	77%	80%	0.35
HDL-cholesterol ≥1.0 mmol/L	58%	57%	69%	69%	0.99
Diastolic blood pressure ≤90 mmHg	86%	87%	84%	80%	0.14
Total cholesterol ≤4.5 mmol/L	70%	70%	71%	72%	0.73

(a) Number of patients currently smoking, data presented at baseline measurements represents smoking status prior to index event.

Classification of achievement of risk factor targets



Classification of achievement of risk factor targets



Medication

	Baseline		12 months follow-up		12 months p-value
	Nurse group (N=366)	Usual care (n=367)	Nurse group	Usual care	
Any antithrombotic agent(a)	99%	99%	98%	98%	0.99
Any lipidlowering agent(b)	96%	96%	93%	94%	0.64
Beta blockers	90%	89%	76%	78%	0.53
Calcium channel blocker	18%	18%	22%	19%	0.35
Diuretics	14%	15%	21%	15%	0.04
Angiotensin-converting enzyme inhibitors	55%	48%	57%	46%	0.005
Angiotensin II receptor blockers	10%	9%	16%	16%	0.92
Alfa blockers	0%	1%	0%	1%	0.06

Baseline medication is after index event

(a)Antithrombotic agents are asprinie, clopidogrel, dipyridamol or any oral anticoagulant.

(b)Lipidlowering agents are statins or non-statin lipidlowering agents.

Conclusions (1)

- The RESPONSE nurse coordinated prevention program resulted in lowering of cardiovascular risk in patients with a recent acute coronary event.
- This was achieved on top of high level usual care.
- Risk reduction occurred at 6 months and was sustained to 12 months follow-up.

Conclusions (2)

- The program was effective in achieving targets for systolic blood pressure, LDL cholesterol, and healthy lifestyles.
- The program did not impact on weight and smoking status.
- The program did not lead to loss of quality of life.

Conclusions (3)

- The program, with up to 4 outpatient clinic visits, was well attended, practical and can readily be implemented into daily practice.

Experience – Pitfalls NLPC

- Patients can be seen at the NLPC on short notice. (ie. 1-2 weeks after discharge)
- Consult time 30-45 min.

- Great demand for information and guidance
- Information gap! (diagnoses, therapy, Rx, consequeces)

NLPC = Lifestyle change

- Joint effort

- Invite partner as well
- Inform partner on background of proposed lifestyle changes patient.
- Commitment of the partner to support the patient in achieving his/her targets/goals.
- Identify barriers for lifestyle changes

Structure your consult

- Agenda
- Commitment patient.

- Tool: motivational interviewing

- Pitfall: useless to talk about lifestyle changes without commitment patient

Step by Step

- Create an open atmosphere!
- Know what you are talking about (authority)
- One thing after another (priorities)

Follow up

- Establish relationship with patient.
- Follow up and motivate on targets/goals patient set.
- FU well attended, almost 100%

- Once only contact insufficient (pitfall)

Conditions for succesful implant NLPC

- Motivated, dedicated Cardiologist / doctor as partner in setting up and running a NLPC.
- Backup for Rx adjustments, urgent questions.

- Availability of sufficient office-space/time, and financing (bussinesplan)

Getting started

- Who are you? What are your objectives?

- Inside the hospital (cardiologists, dep. med psychology, fysiotherapists, diabetes-consulents, dep of lungdisease, nutrition)
- Outside the hospital (GP)

- Goal: commitment

Spider in the web

- Be “casemanager” for your patient

- Proffesionals should look over “their hedges” (competency)
- Multidiciplinary approach with focus on the patient

Issues

- NLPC in RESPONSE showed no impact on weight and smoking status.

- Longer / frequent FU?
- More specific training on these topics?
- RESPONSE-II ?

- Should NLPC be Hospital based?

“Response on Depression and anxiety”

The Eindhoven Depression & Anxiety Study

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amc

TILBURG UNIVERSITY

CATHARINA-HOSPITAL

Objective

- To quantify the impact of outpatient nurse-led prevention clinics (NLPC) on patients level of depression and anxiety in patients after an Acute Coronary Syndrome (ACS)

Background

- Symptoms of depression and anxiety after myocardial infarction (MI) are important prognostic risk factors of increased morbidity and mortality.

- Patients with symptoms of depression or anxiety after MI have an almost three-fold increased risk of death or recurrent MI as compared to patients without these symptoms.

Martens,*The complex nature of depression after myocardial infarction:Evolution and consequences* 2007 PhD

Prevalence

- symptoms of depression and anxiety in patients following myocardial infarction (MI) are highly prevalent, with prevalence rates for depression ranging from 17-37% and for anxiety from 24-31%.

Januzzi, *Arch.Intern.Med.* 2000

Depression after MI normal reaction?

- depressive symptoms following MI are not a transient phenomenon, with levels of depressive symptoms persisting throughout the first year post-MI

Martens, *Psychol.Med.* 2008

behavioural factors

- contribute to a worse prognosis in depressive patients:
- smoke more often,
- have a higher alcohol consumption,
- are less physically active,
- Likewise, depressive MI-patients also show less adherence to their prescribed treatment / therapy

Dankner *Am.J.Cardiol.*2003 Camacho, *Am.J.Epidemiol.*1991
McDermott, *Arch. Int. Med.* 1997. Dankner, Ziegelstein, *Arch. Int..Med.* 2000

Anxiety

- prevalence rates as stated ranging from 24-31%4

- predictive of disability, increased physical symptoms, worse functional status and quality of life in CHD patients

Martens, de Jonge 2010 Arch Gen Psych, Roest et al. JACC 2010

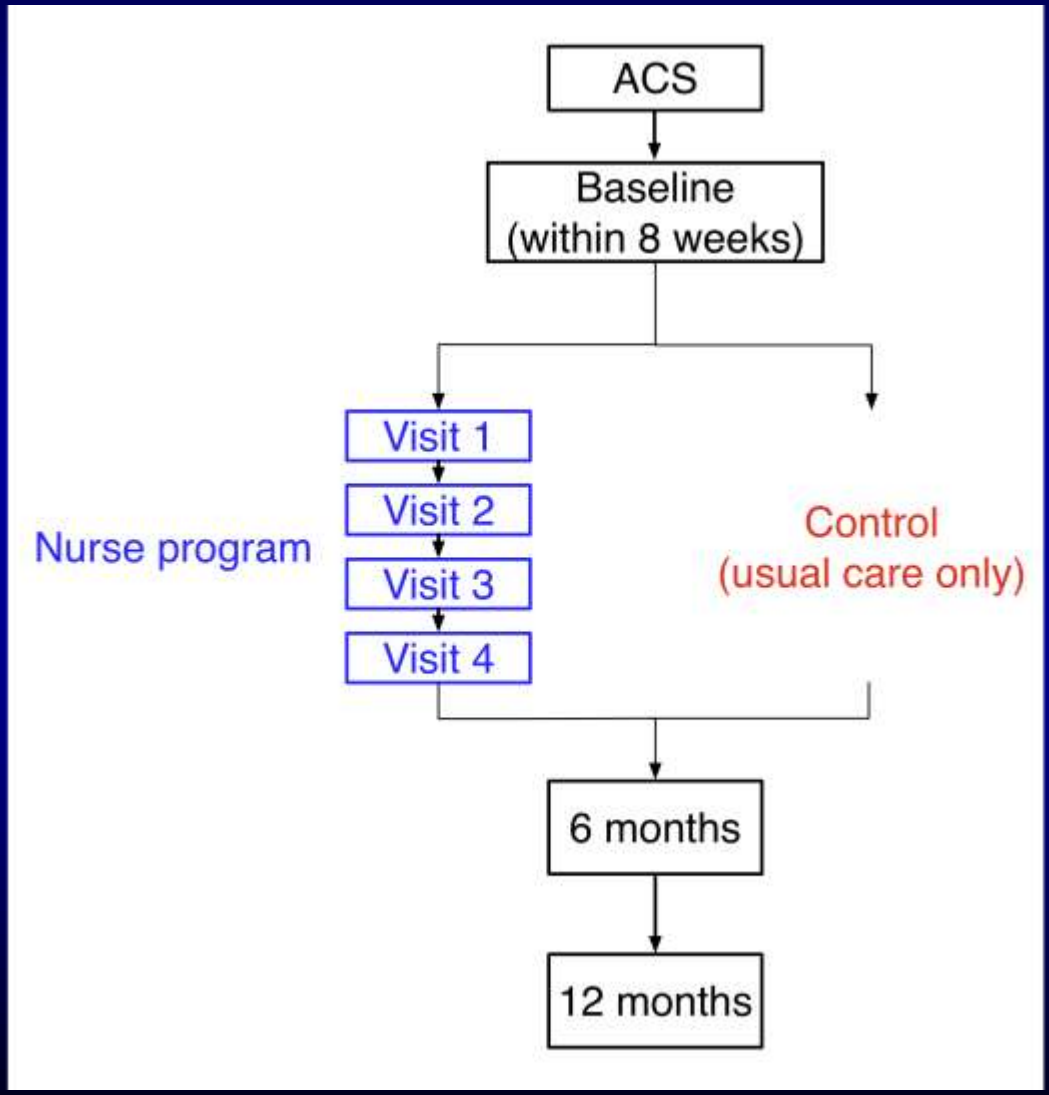
Methods

- A multi-center, prospective, randomized clinical trial, in which 124 patients were randomized to a 6-month outpatient counselling and treatment course by a nurse (intervention N81), or to usual care alone (control N83).

Measurements

- To assess depressive symptoms patients completed the Beck Depression Inventory (BDI)
- for anxiety patients completed the State Trait Anxiety Inventory (STAI)
- Baseline, 6 and 12 months.

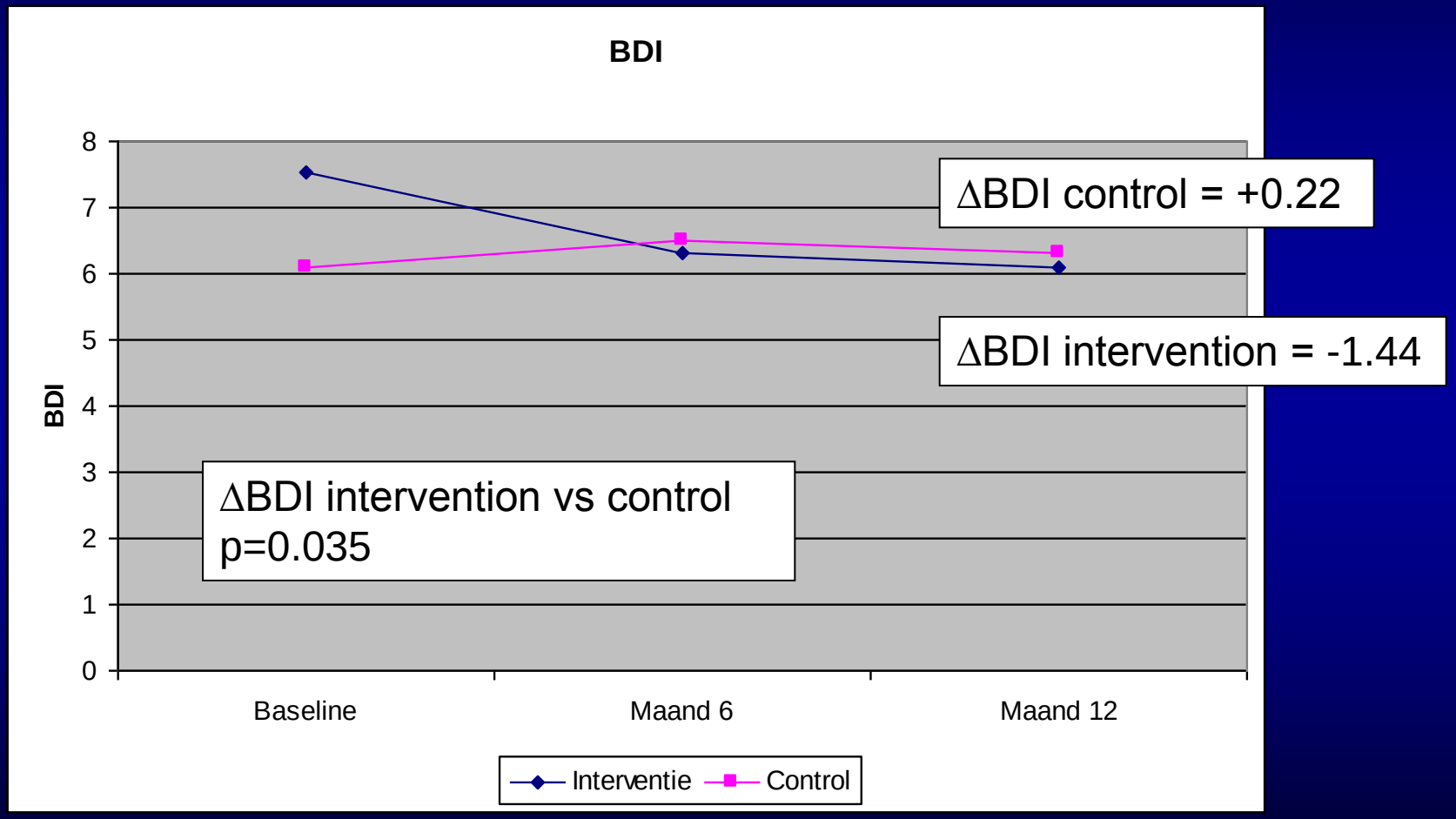
Study flowchart



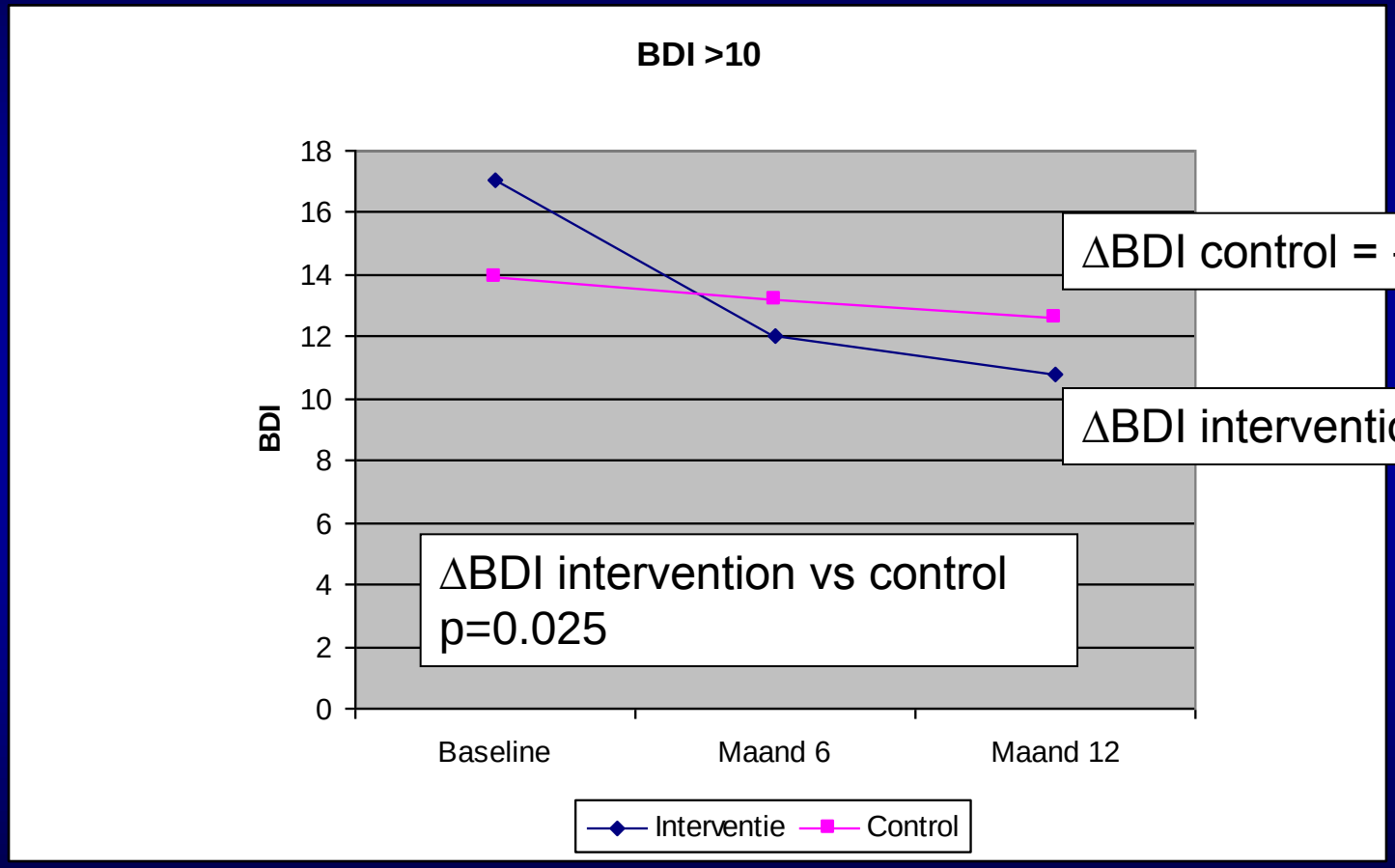
Primary endpoint

- Primary endpoint was the change in levels of depression and anxiety between baseline and follow-up at 6 and 12 months in interventions as compared with controls.

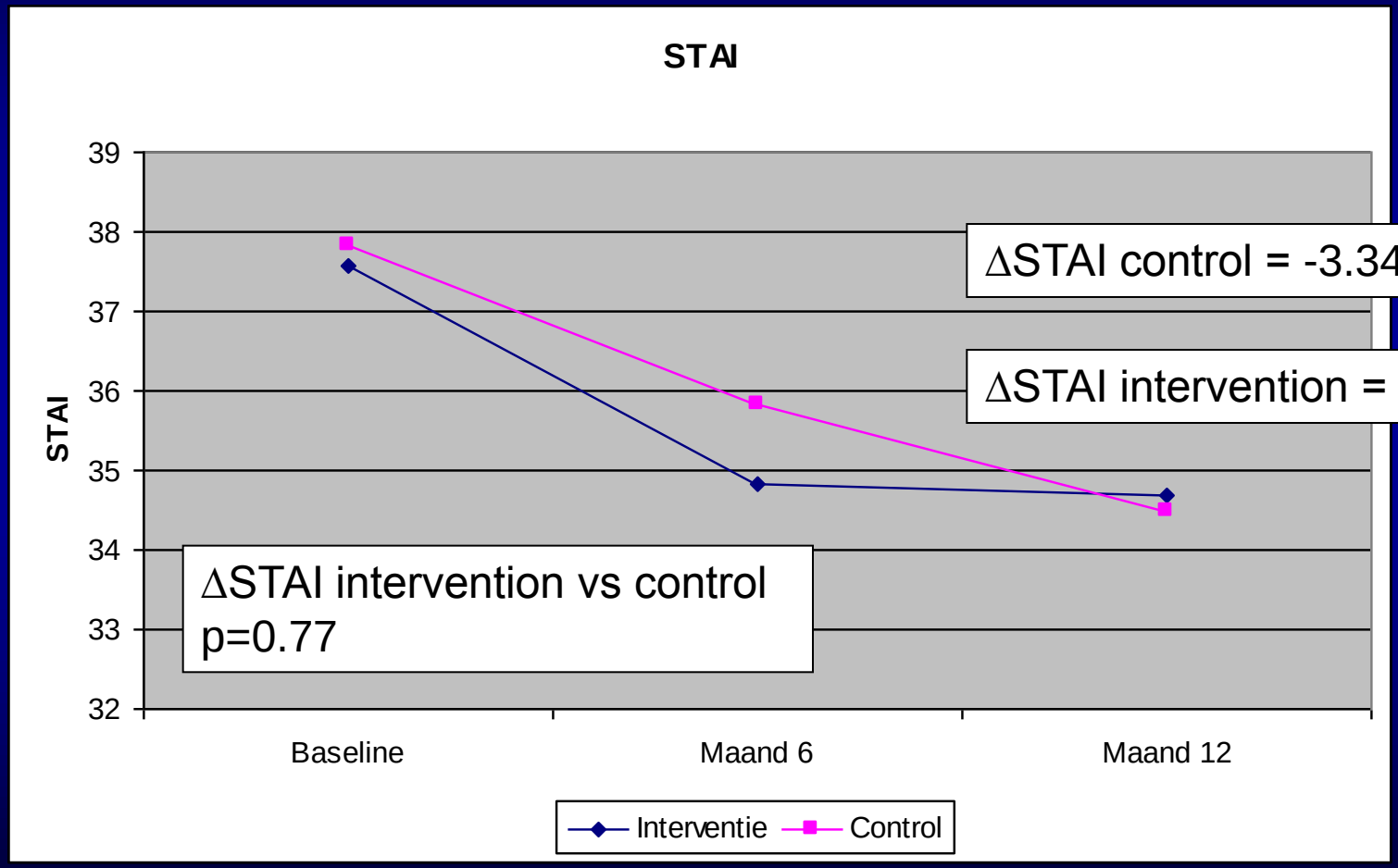
Results BDI total population



Population with BDI ≥ 10 at baseline



Results STAI



Conclusions (1)

- a 6-month Nurse Coordinated Prevention Program for ACS patients corresponds with a statistically significant, albeit small decrease in depressive symptoms,
- Effect especially seen in patients with moderate to severe depression.
- Our study did not show an effect on anxiety symptoms

Conclusions (2)

- The program did not lead to loss of quality of life.
- the findings of our study supports the implementation of NLPC's in the care for ACS patients.
- It seems that the extra attention / care received by visiting a NLPC is already effective in reducing the level of depressive symptoms in these patients.

Discussion (1)

- Doing “nothing” no option.
- For patients with mild and moderate symptoms of depression visiting a NLPC could be a alternative to intensive psychological therapy
- intensive therapy could be targeted at patients with a full-blown major depression.

Discussion (2)

- Strengtht of the study: the prospective, randomized, multicenter design and the assessment in this study of both depressive symptoms and anxiety symptoms.
- Limitation: by inclusion of 124 patients of the required 382 patients the study is underpowered.

Discussion (3)

- more research (longer FU, better power) is needed to validate the conclusions.
- Improve training healthprofessionals on recognition symptoms of depression and or anxiety
- Improve interdisciplinary collaboration

Take home message

- The opportunity to screen for and treat depressive symptoms in patients after an ACS who visit an NLPC should not be missed, as effective depression treatment may improve patients health outcomes

Thanks for your

Attention