Development of tailored treatment of chronic pain

Floris Kraaimaat

Medical Psychology
UMC St Radboud Nijmegen

About 200 different rheumatic diseases

The case of

rheumatoid arthritis and fibromyalgia

Rheumatoid arthritis (RA)

- **Prevalence 1-2 %**
- **2/3 women, about 50 yrs**
- **(Auto)immune disease: inflammation and destruction of the joints, pain, fatigue, functional disability**

1987 ACR criteria

Fibromyalgia (FM)

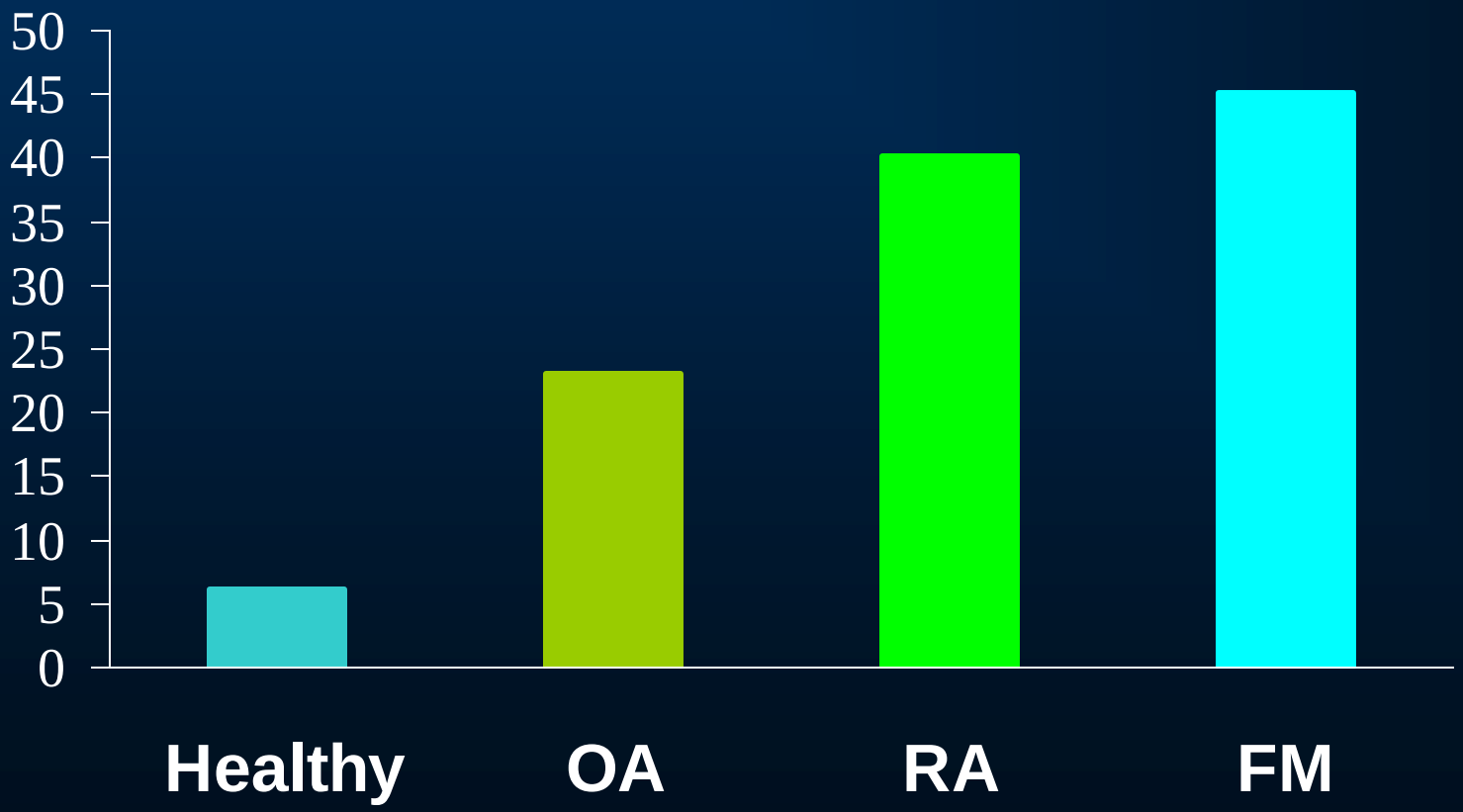
- **Prevalence 1-4%**
- **4/5 women, about 45 yrs**
- **Unexplained medical complaints**
- **wide spread pain, functional disability, fatigue**

1990 ACR criteria

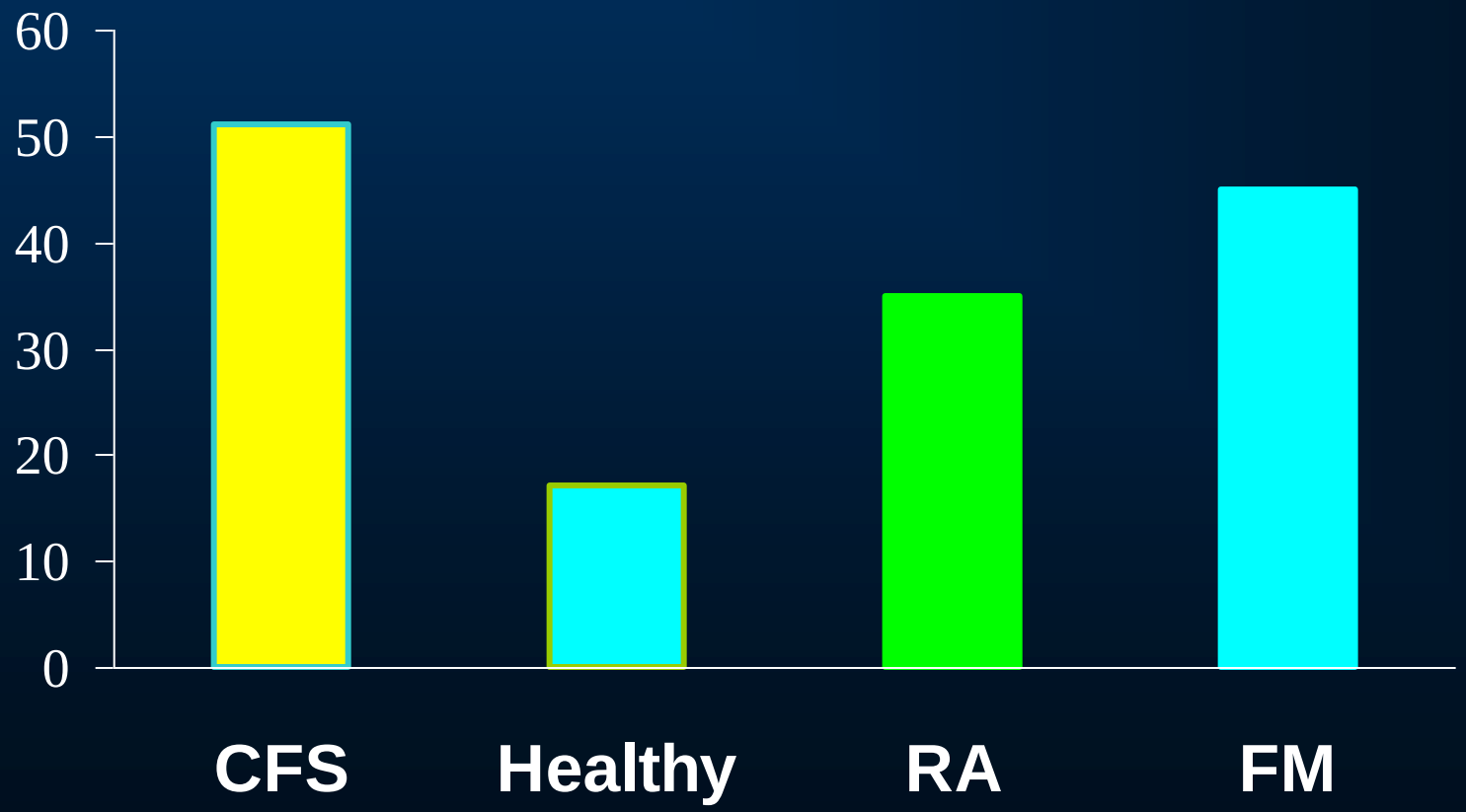
Disease impact on daily life

RA and FM in comparison with healthy subjects and patients with osteoarthritis (OA)

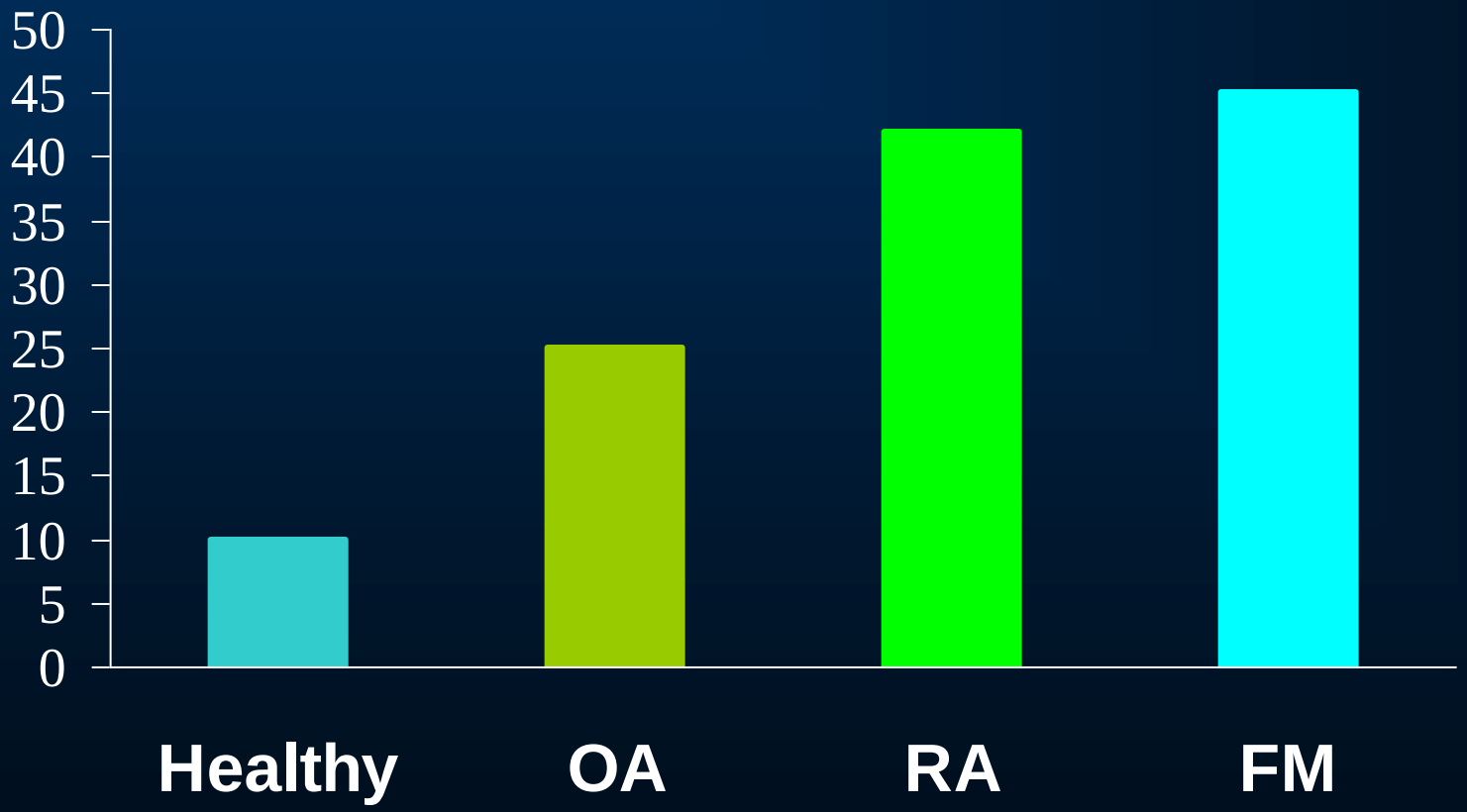
Pain (IRGL)



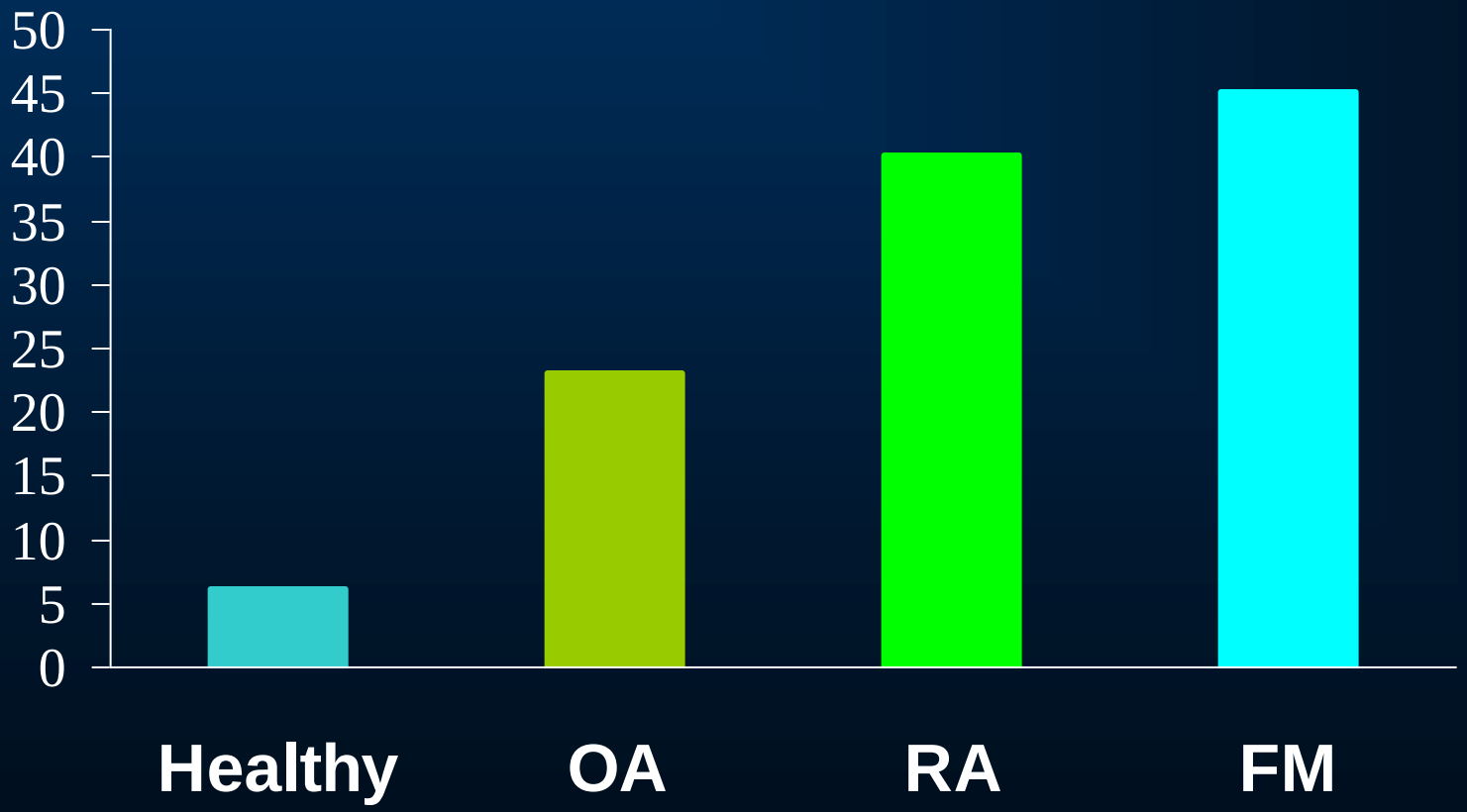
Fatigue (CIS)



Functional disability (iRGL)



Depressiveness (IRGL)



Effectiveness of psychological interventions

Rheumatoid arthritis

Psychological treatments in RA

Type intervention

- Patient education
- Self-management
- Cognitive-behavioral therapy (CBT)

Usually applied as standardized group treatment for all RA patients

Effectiveness of psychological treatments in RA

Meta-analyses

- **Post-treatment** — **Non-significant to small effects**
- **Follow-up** — **Non-significant effects**

Hawley, 1995, Riemsma et al., 2002

Effectiveness of psychological interventions

Fibromyalgia

Treatment of fibromyalgia

Medication

- analgetics
- antidepressiva
- combination

Multidisciplinary

- Cogn. behavior therapy
- Physiotherapy, exercise
- Combination

Treatment of fibromyalgia

Meta-analyses

Multidisciplinary treatment:

(Cognitive behavior therapy + exercise) more effective than medication (antidepressants or analgetics)

no or at most modest effect sizes and effects of short duration

Rossy 1999; Hadhazy 2000;

van Koulil et al. 2007

How do we explain the limited effects of treatment in patients with RA and those with FM

heterogeneity

of patients, methods, time

therapists ?

A uniformity myth ?

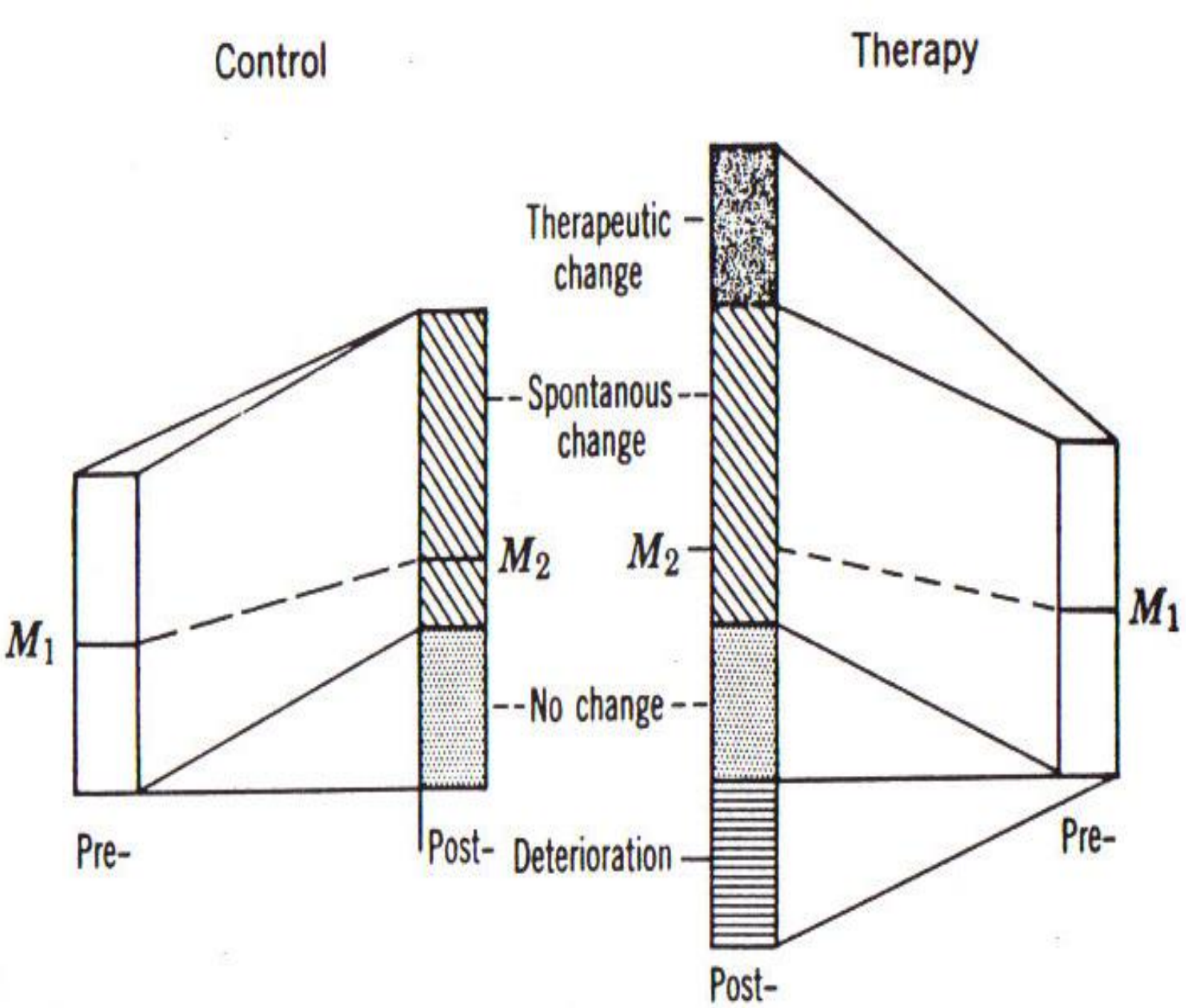
a therapist is a therapist is

pain is pain is pain is …

a patient is a patient is …

a disease is a disease is…

and so on


Control
Therapy
Therapeutic change
Spontanous change
No change
Deterioration
M_1
M_2
M_2
M_1
Pre-
Post-
Post-
Pre-

Ultimate goal in therapy research

What treatment, by whom, is most effective for this individual with that specific problem, under which set of circumstances, and how does it come out.

Gordon Paul, 1969

Tailoring

Patients	Goals	Targets	Procedures
Pathophy-siology	Pain	Fear of pain	Exposure
Duration	Disability	Deconditioning	Graded exercise
Level of distress	Anxiety depression	Worry Catastrophise	Exposure
Age	Social relationships	Social anxiety Social skills	Skills training Cogn. restr.

Tailored cognitive behavior therapy in RA

An approach to individual patients

A. Evers et al. 2002

Tailored approach

1. Patient selection	patient at risk
2. Treatment specificity	patient’s main complaints
3. Stage of the disease	early stage of disease

Patient selection

Patients at risk for high distress

- Majority of RA patients is well adjusted
- Subgroups of 20-40% at risk for anxiety and depression

Dickens et al, 2002; Evers et al., 2002

Patient selection

Cognitive behavioral factors

affect physical and psychological health in subgroups RA patients

E.g. helplessness

passive coping

social support

Evers et al., 1997, 1998, 2002, 2003

Smith et al., 1997; Lankveld et al., 1999

Patient selection

Effects of cognitive behavior therapy for patients at risk

- **Meta-analyses: Only subgroups of RA patients benefit from CBT**

  McCracken et al., 1990

- **Chronic pain patients with high distress benefit most from CBT** ***Turk et al., 1998***

Treatment specificity

Generic treatment not relevant and effective for all patients

Tailor-made treatment

- **matched to patient risk profiles**
- **aimed at the patient’s main complaints**

Treatment specificity

Tailor-made treatment applied modularly, depending on the individual profile is expected to:

- **increase magnitude and maintenance of effects**
- **increase patient satisfaction**
- **decrease attrition rates**

Stage of the disease

Early stage of the disease

Cognitive behavior risk factors less stable and easier to modify

Possibility to prevent a worse long-term outcome

Stage of the disease

Cognitive behavioral risk factors in early RA

- **Already established in recently diagnosed RA patients**
- **Affect long-term disease outcome**

Evers et al., 1998; 2002; 2003

Smith et al, 1997

Stage of the disease

Cognitive behavior therapy

More effective for RA patients with shorter disease duration

Kraaimaat et al., 1995;

Sinclair et al., 2001

Stage of the disease

Cognitive behavior therapy in early RA

- **Effective for depression at post-treatment and 6 month follow-up**
- **Effects maintained at 18 month follow-up**

Sharpe et al., 2001, 2003

A tailored approach in individual patients with RA

1. Patients at risk
2. Tailored treatment modules
3. Early stage of disease

A.Evers et al., 2002

Screening

- **Screening** — **278 patients with early RA**
- **Invitation** — **111 patients at risk**
- **Randomization** — **64 patients in 2 conditions**

Treatment conditions

- **Treatment condition**

  Tailored cognitive behavioral therapy

  + Standard care **(rheumatologist, nurse consultant)**

- **Control condition**

  Standard care **(rheumatologist, nurse consultant)**

Tailored Cognitive Behavior Therapy

- 10 individual sessions
- Choice of 2 out of 4 modules:
  - Pain / functional disability
  - Fatigue
  - Negative mood
  - Social relationships

Development of modules

Use of standardised treatment protocols

- **RA** — e.g. Kraaimaat et al, 1995
- **Chronic pain** — e.g.. Vlaeyen, 2000, Sorbi et al, 2000
- **Chronic fatigue** — e.g. Prins et al, 2001
- **Depression, GAD** — e.g. Barlow, 1993
- **Grief /acceptance** — e.g. Hayes et al, 1999

Structure

- **Session 1:** introduction aim and modules
- **Sessions 2-5:** module 1
- **Sessions 6-9:** module 2
- **Session 10:** relapse prevention
  + long-term goals

Module:
pain and functional disability

- Monitoring pain and activities
- Restructuring disfunctional pain-cognitions
- Anxiety/tension related pain mechanisms
- Deconditioning
- Problem-solving skills

Module: fatigue

- Monitoring fatigue and activities
- Restructuring disfunctional fatigue-cognitions
- Regulating activities
- Deconditioning
- Problem-solving skills

Module:
negative mood

- Monitoring mood and activities
- Restructuring disfunctional cognitions
- Anxiety/tension eliciting events
- Processing loss/ grief
- Problem-solving skills

Module:
social relationships/competence

- Monitoring of social distressing situations
- Restructuring disfunctionale cognitions
- Social skills training (e.g. asking and refusing requests)
- Social avoidance/exposure
- Problem-solving skills

Results

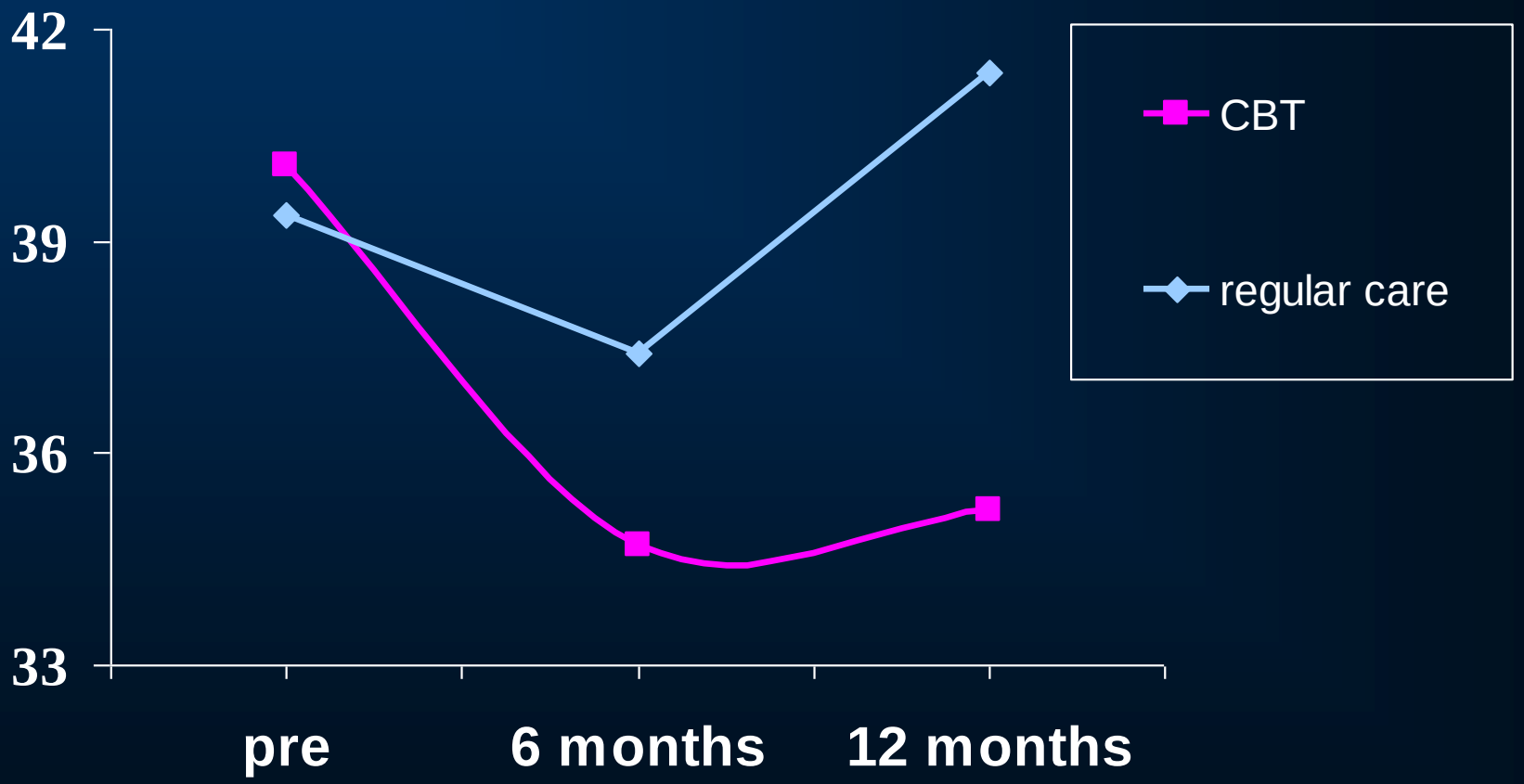
post treatment

and 6 months follow-up

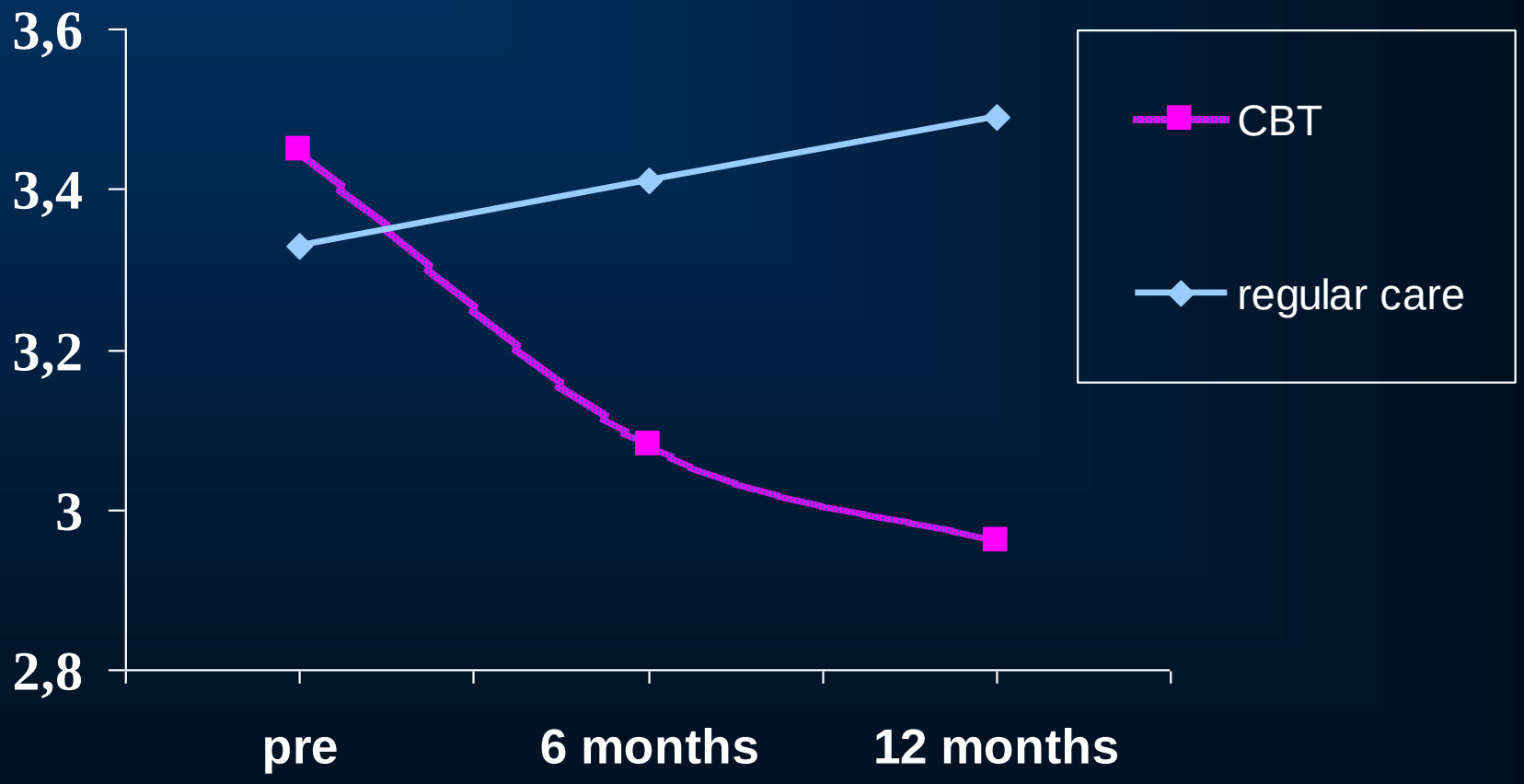
Results

- Disease activity decreased in both conditions
- Non-significant results with respect to pain and functional disability in both conditions (not applied in 64% of patients)
- Only in CBT sign. results with respect to fatigue, depression and social support

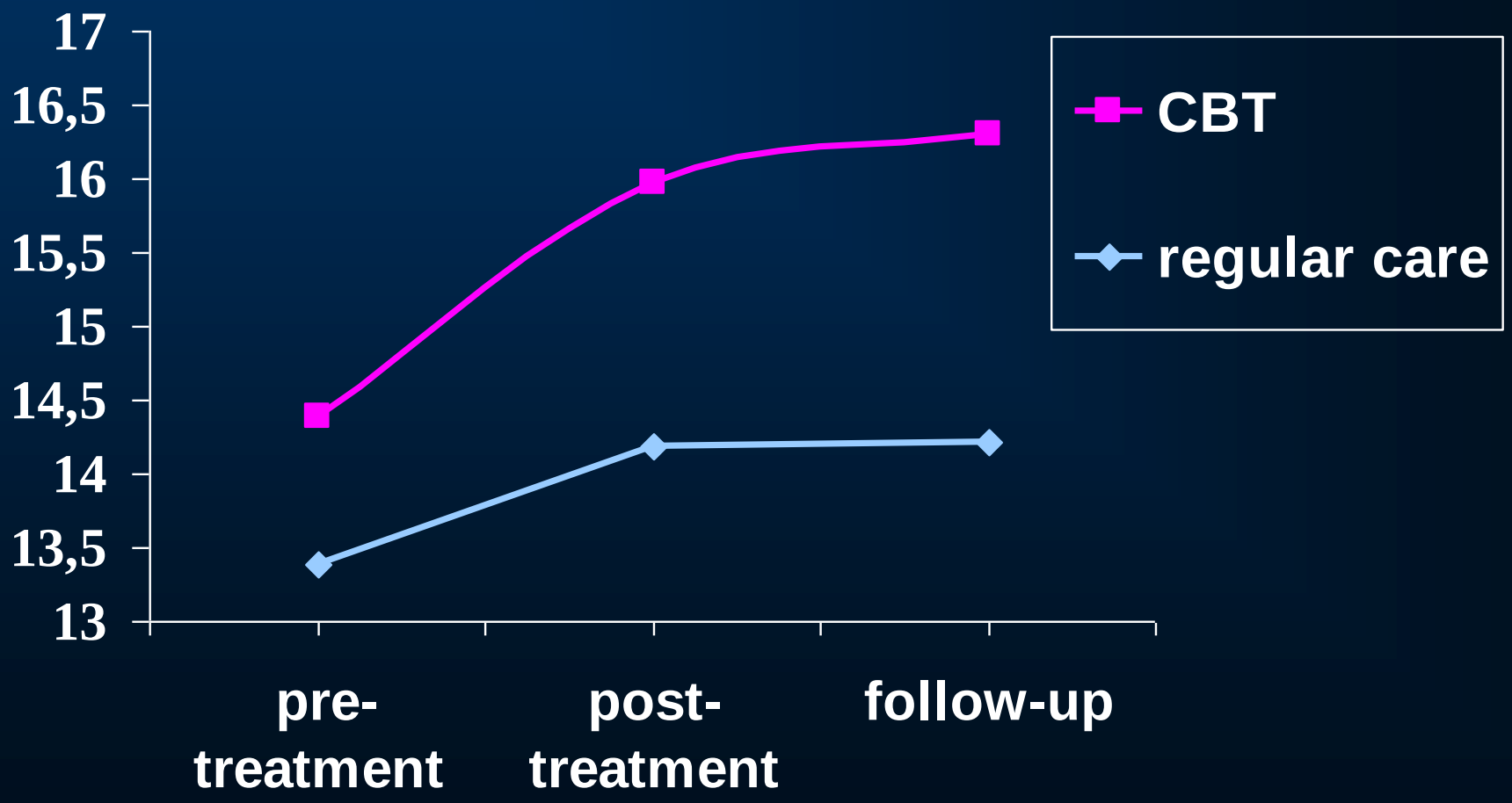
Fatigue



Depression



Social support



Effect sizes at follow-up

	CBT	RC
• Fatigue	.48	-.19
• Depression	.55	-.16
• Social support	.45	-.16

- **Meta-analyses**
  psychological treatments **n.s.**

Riemsma et al, 2002

Conclusions

Tailored cognitive behavior therapy in RA

- **Effective with respect to fatigue, psychological and social functioning**

- **Moderate effects**
- **Stabile effects at follow-up**
- **Low dropout-rate (6%)**

Tailored cognitive behavior therapy in RA

A step in the right direction

Tailored multidisciplinary cognitive behavior therapy in patients with fibromyalgia

A group and pain-profile approach

Tailored cognitive behavior therapy in fibromyalgia:

A randomized, controlled trial

Saskia van Koulil et al. (work in progress)

Tailored approach

1. Patient selection	patients at risk
2. Treatment specificity	pain profile
3. Stage of disease	early

Screening

- **Screening of FM patients with a recent diagnosis, high distress and pain profile**

  diagnosis < 5 yrs

  high anxiety/ depression scores

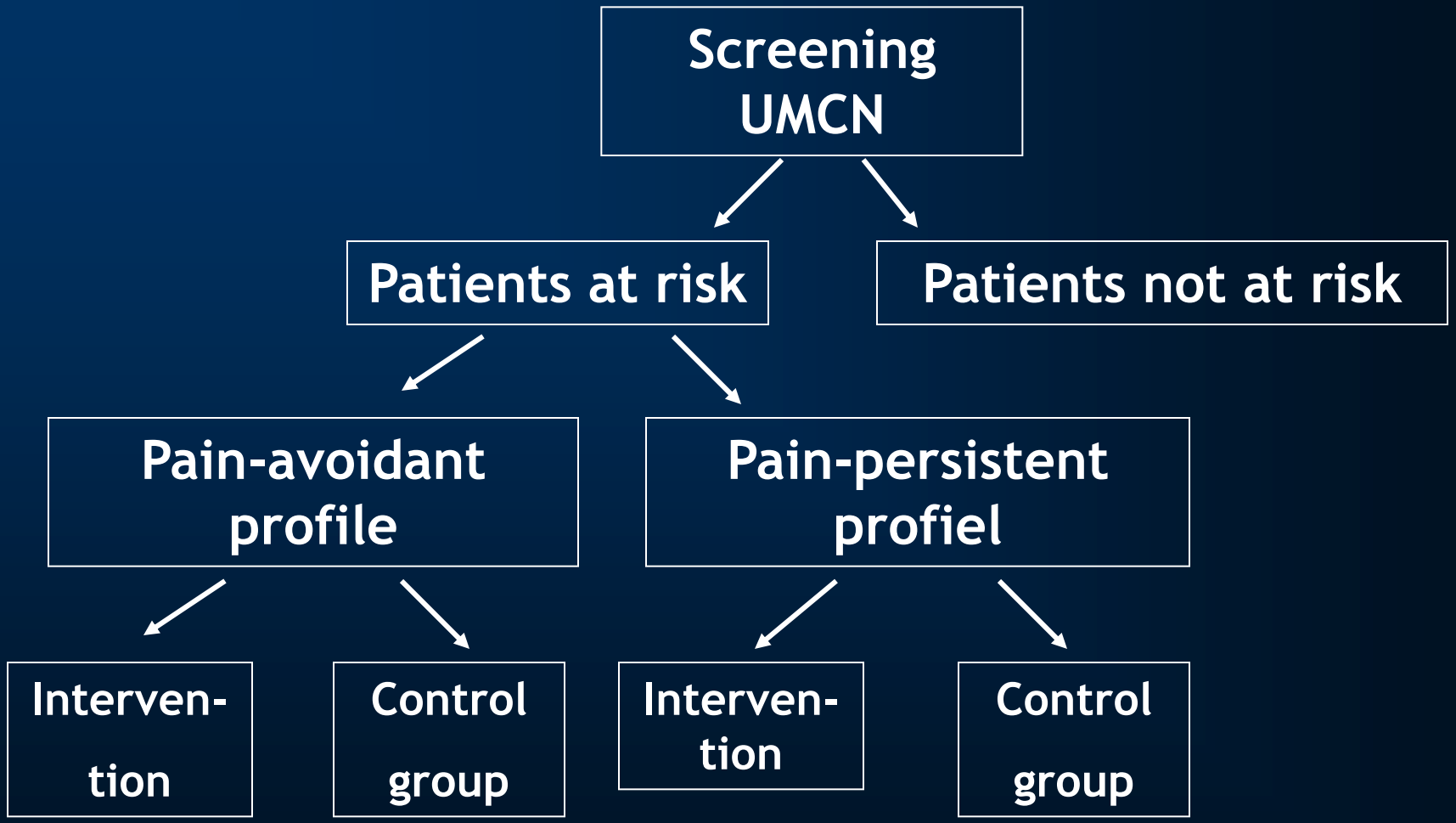
  pain mechanisms:

  30% pain-avoidant

  30% pain-persistent

- **Exclusion** **severe physical of psychiatric comorbidity**

Rheumatologist: diagnosis



Multidisciplinairy cognitive behavior therapy

- **Group**
- **Focus: pain-avoidant or pain-persistent**
- **16 sessions in 10 weeks**

  1.5 hr Cognitive behavior therapy

  1.5 hr Physiotherapy (exercise, relaxation and hydrotherapy)
- **3 sessions with partner**

Development of modules

Use of standardised treatment protocols

- **Fibromyalgia** — Thieme, 2003, Helmond, 2003
- **RA** — Evers, 2002, Kraaimaat, 1995
- **Chronic pain** — Vlaeyen et al., 2000, Gatchel & Turk, 1996
- **CFS** — Prins et al., 2001

Pain-avoidant profile

1. High level of pain-avoidance behavior

2. Heightened attention for pain

3. Pain-related worrying

4. Fear of pain and movement

Goals pain-avoidant treatment

- Increase physical condition
- Gradual build-up of activities in daily life
- Individual goal setting, communication and social skills
- Increase self-control

Pain-persistent profile

1. Low level of pain-avoidance behavior

2. Active despite pain

3. Ignore pain and (physical) limits

4. Non-accepting and demanding cognitions about limitations

Goals pain-persistent treatment

- Monitoring and regulating (physical) activities
- Discrimination of physical signals and relaxation
- Assertive communication and realistic demands
- Increase pleasant and/or social activities
- Acceptance of illness and limitations

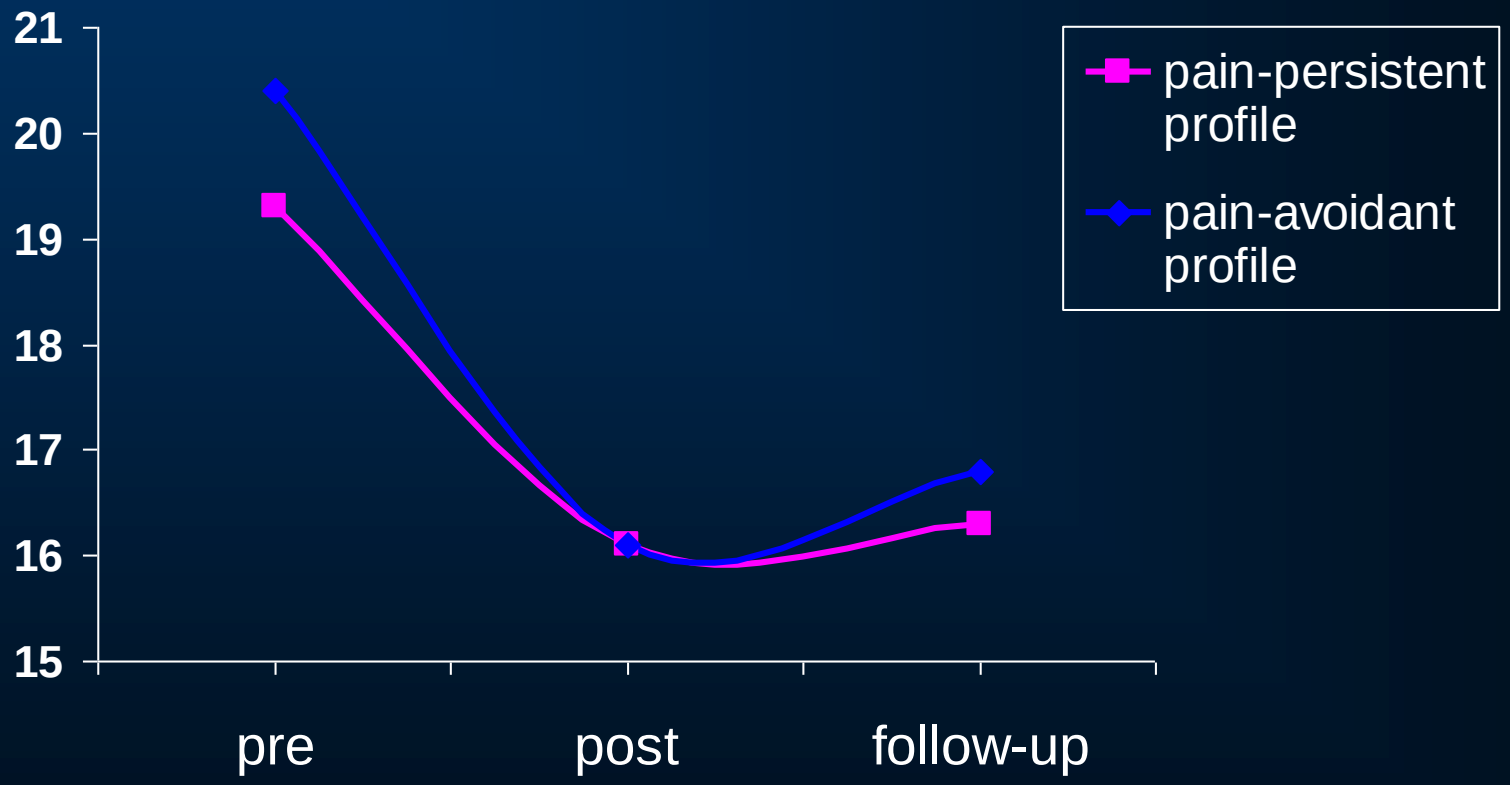
Modules

- group
- 16 sessions in 10 weeks
- 1.5 hr cognitive behavior therapy
- 1.5 hr physiotherapy (exercise, hydrotherapy & relaxation)
- 3 sessions with partner

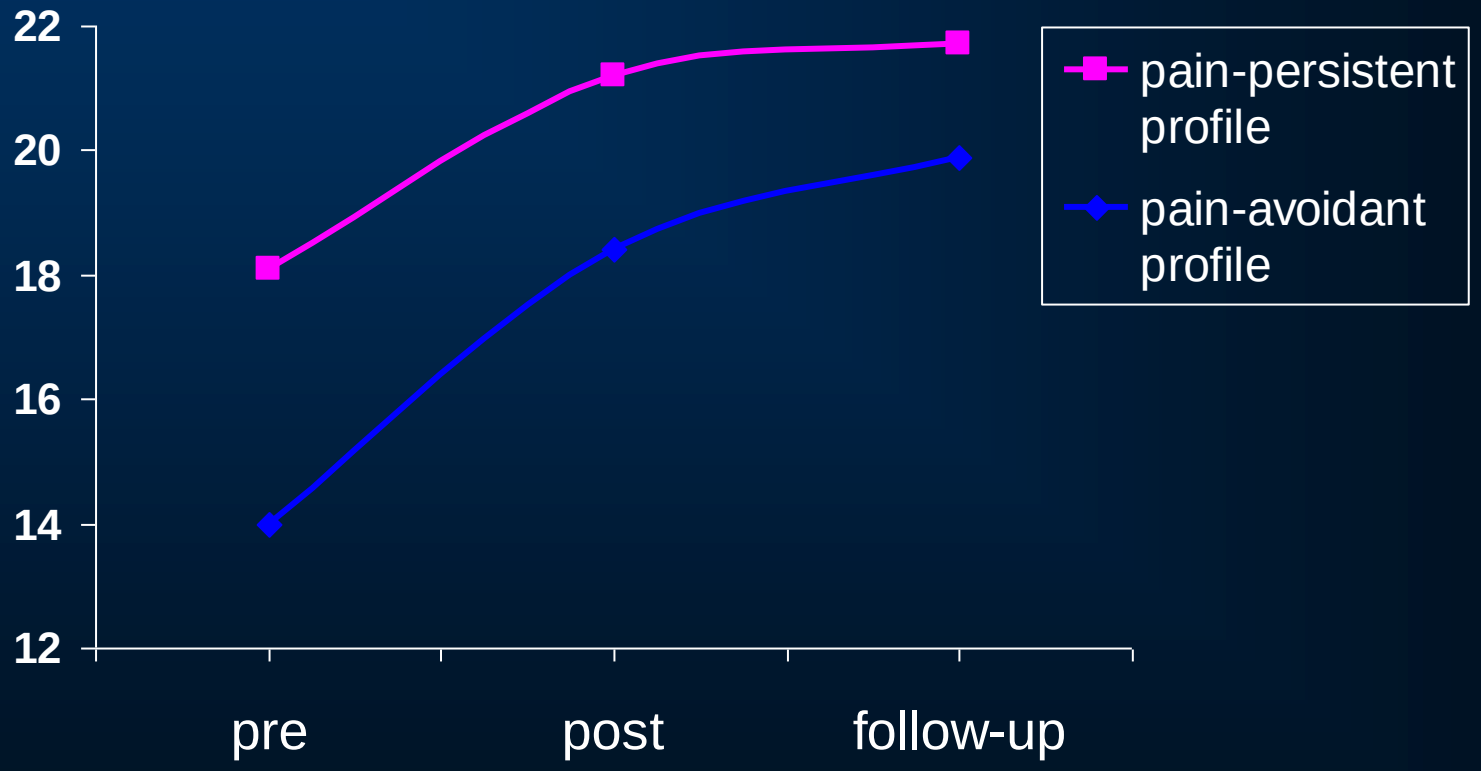
Interim analysis

- Self report outcome measures (n=69)
- Physical outcome measures (n=55)

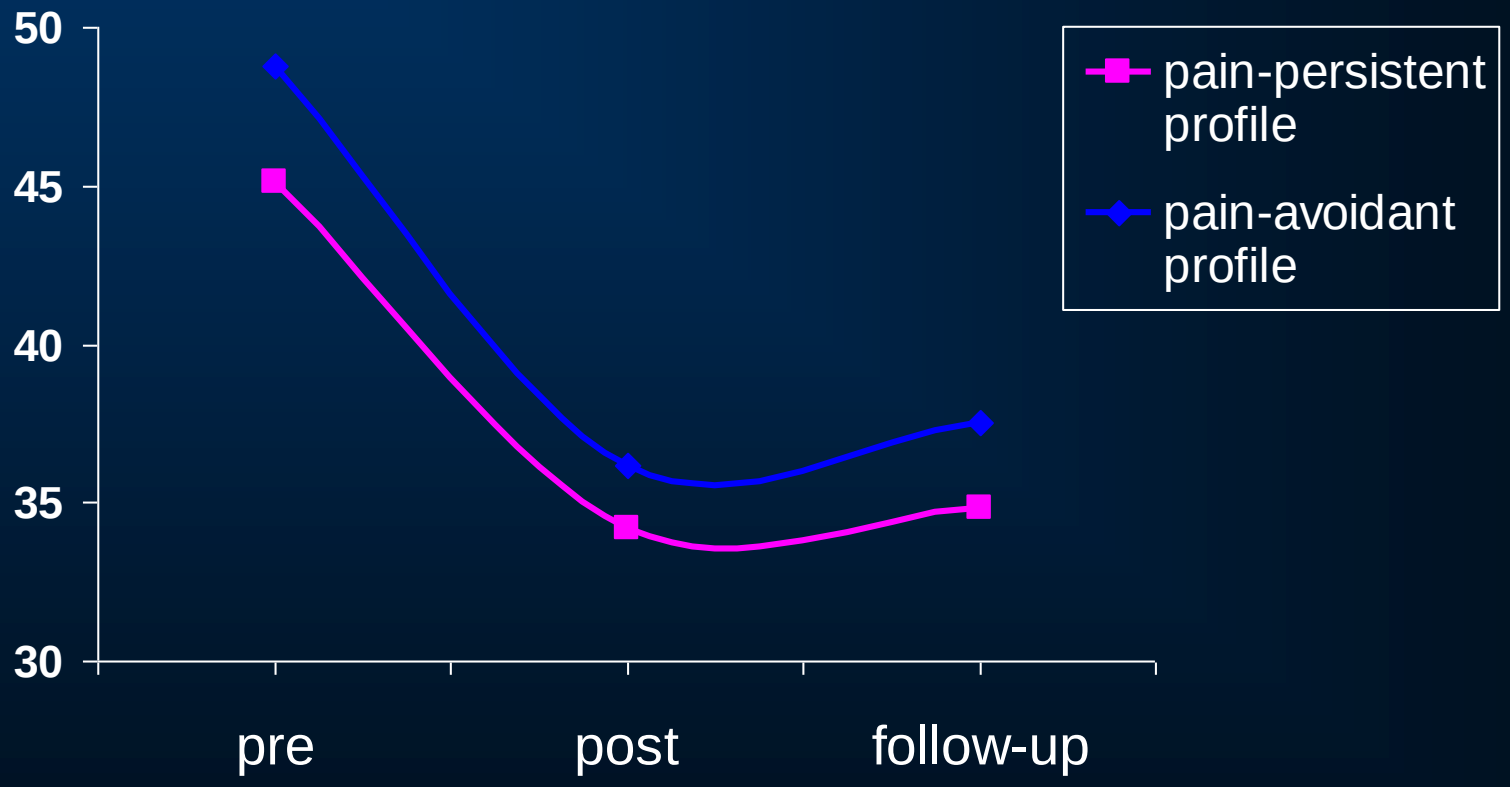
Pain (IRGL)


21
20
19
18
17
16
15
pre
post
follow-up
pain-persistent profile
pain-avoidant profile

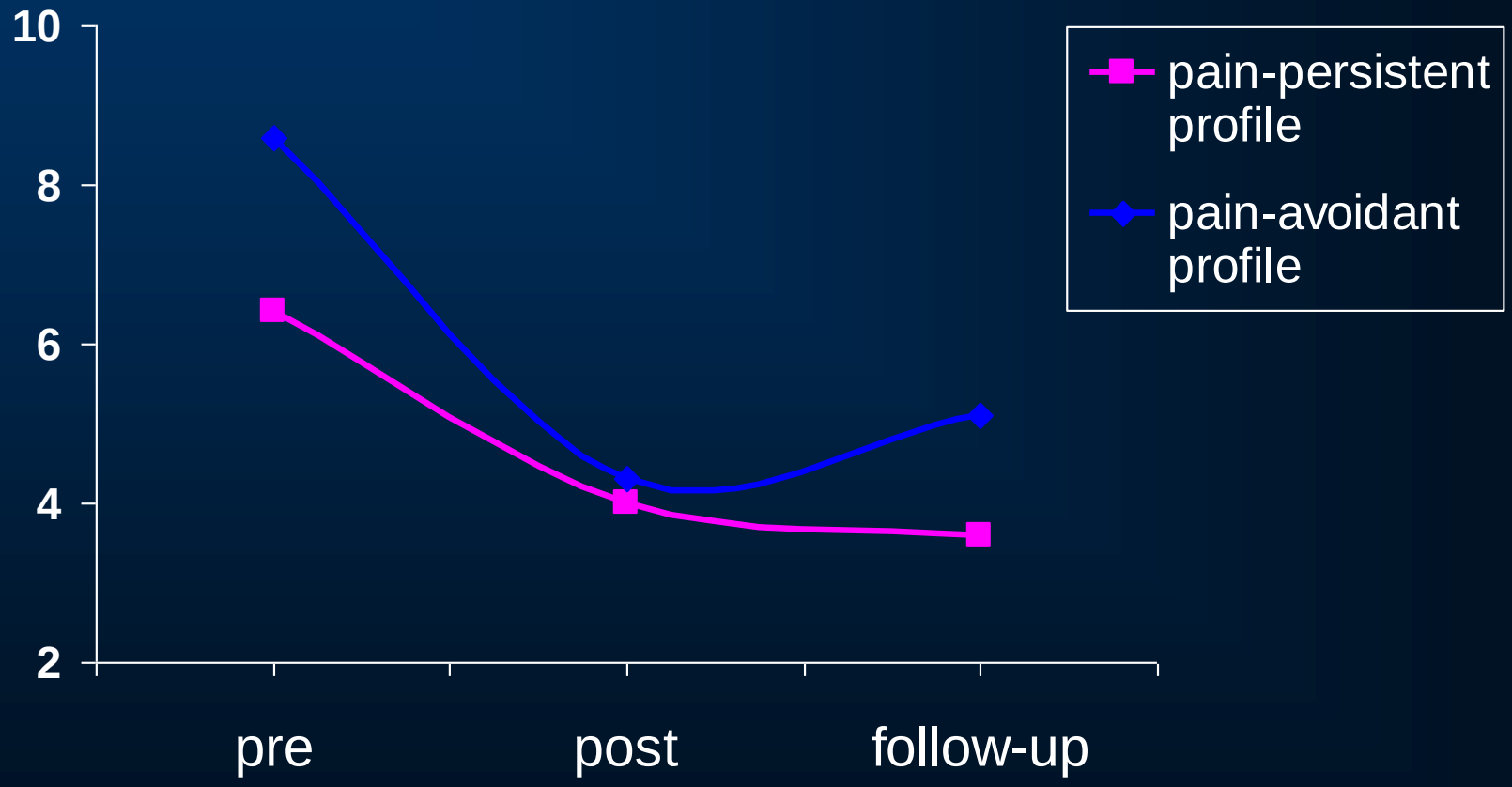
Mobility (IRGL)



Fatigue (CIS)


50
45
40
35
30
pre
post
follow-up
pain-persistent profile
pain-avoidant profile

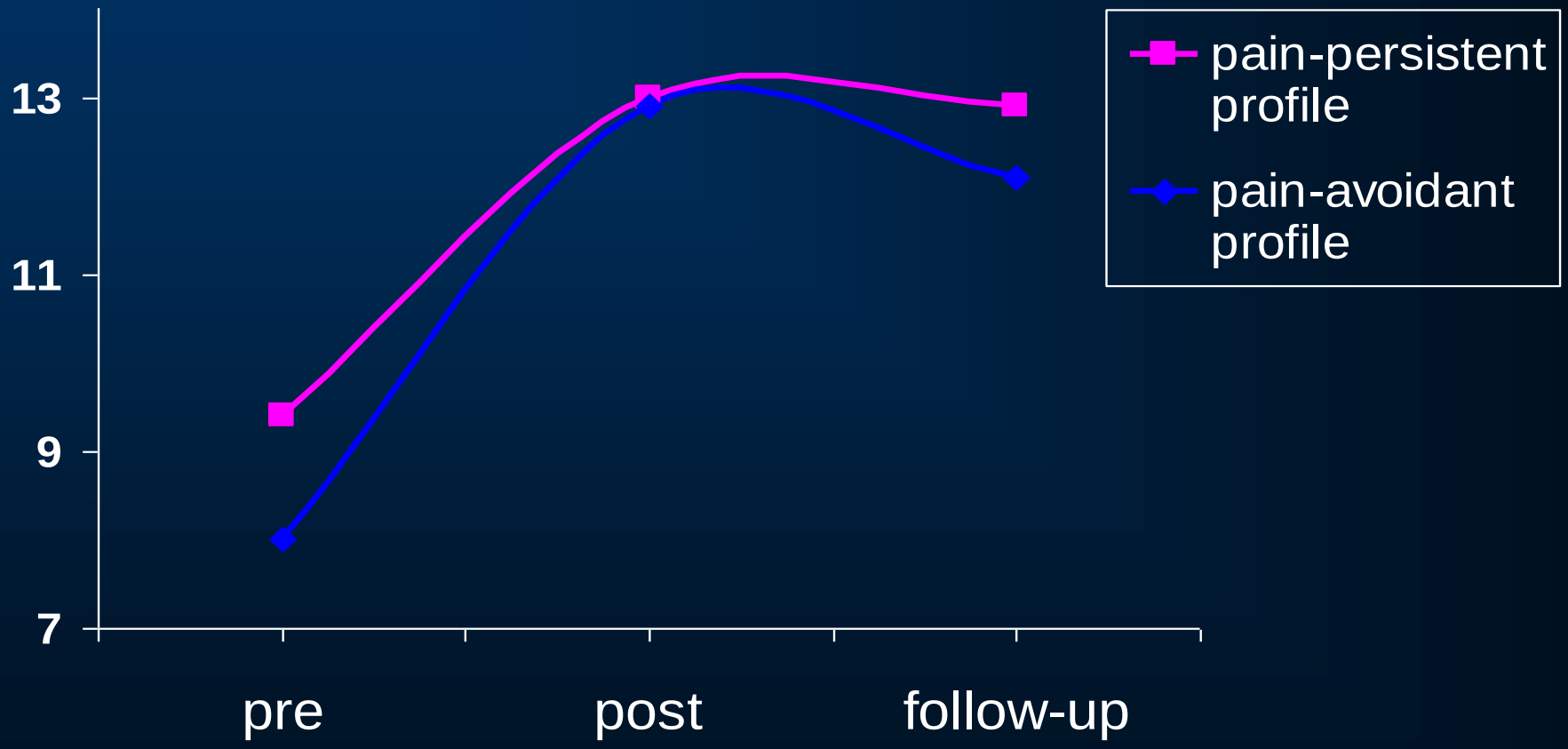
Depression (IRGL)



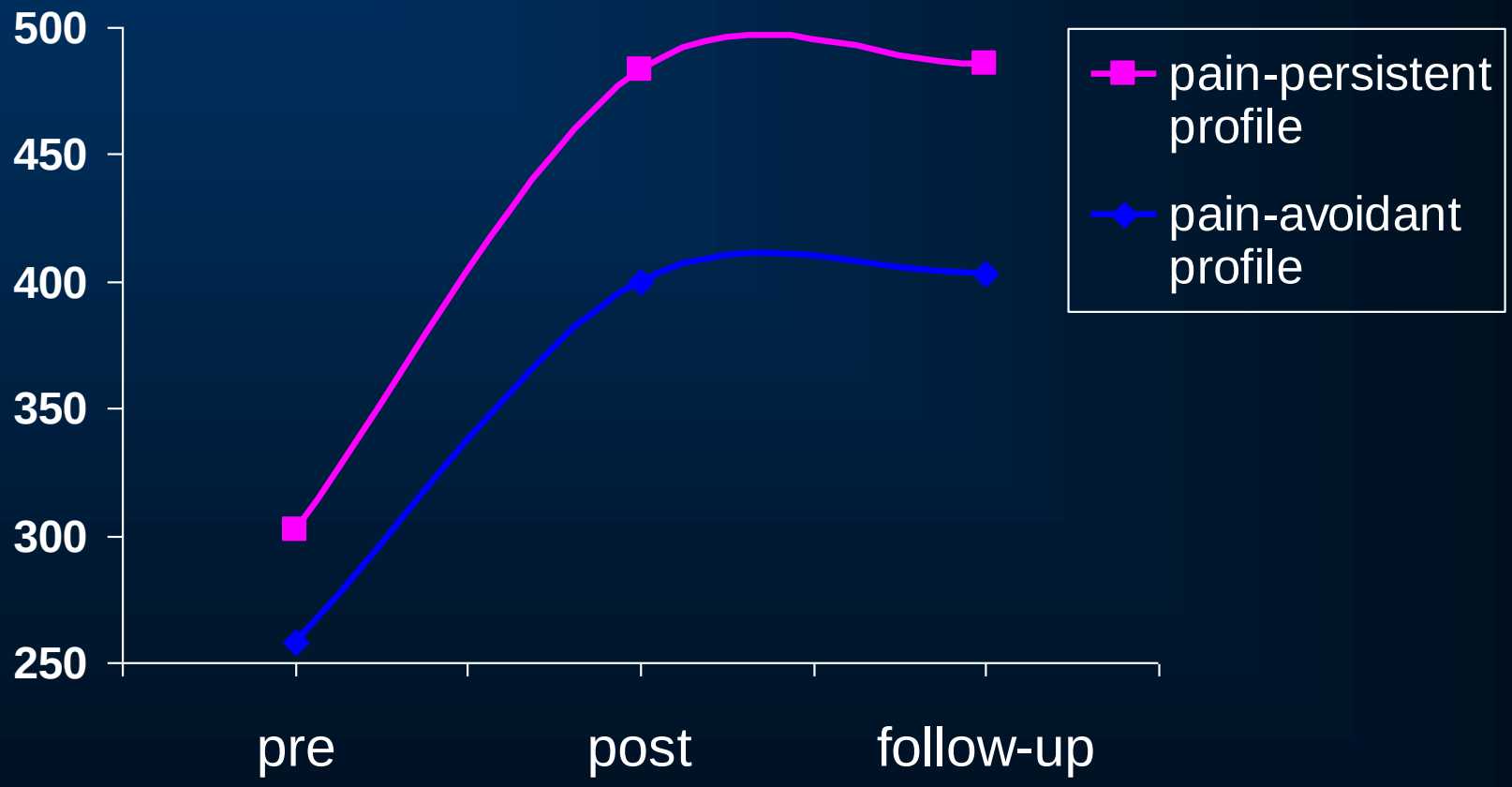
Effect sizes

	Pain-avoidant profile		Pain persistent profile	
	Post	Follow-up	Post	Follow-up
Pain	1.38	1.22	0.90	0.69
Mobility	1.16	1.45	0.73	0.74
Fatigue	1.53	1.11	1.17	0.95
Depression	1.18	0.92	0.67	0.87

Cycle test (min)



Walk test (meters)



Effect sizes physical measures

	Pain-avoidant profile		Pain persistent profile	
	Post	Follow-up	Post	Follow-up
Cycle test	1.08	0.90	0.96	0.91
Walk test	1.23	1.09	1.41	1.19

Multidisciplinary cognitive behavior therapy in FM

A step in the right direction

Hans Cats, Andrea Evers, Toon van Helmond, Saskia van Koulil, Floris Kraaimaat, Wim van Lankveld,Hanneke Manders, Piet van Riel, Annemieke Spijkers.

Dutch Arthritis Association, Dutch Medical Science Institute, University Medical Centre Nijmegen

Thank you for your attention