



# Nature Based Interventions in Sweden

-for the rehabilitation and  
prevention of stress related  
disorders

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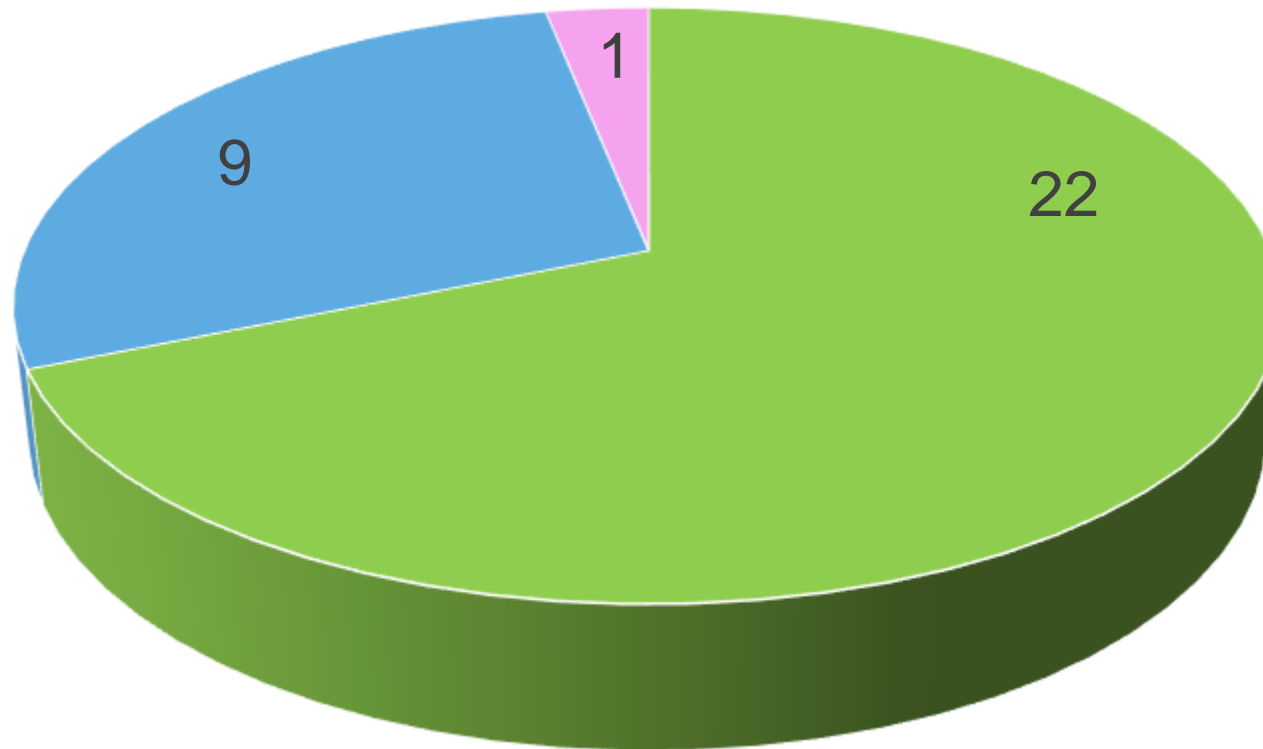
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# Why Nature Based Rehabilitation in Sweden?

## Background

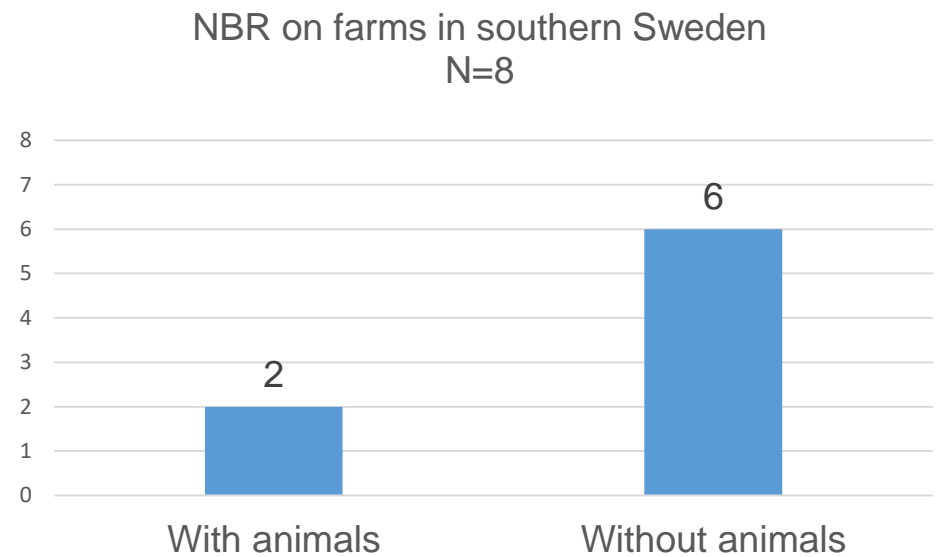
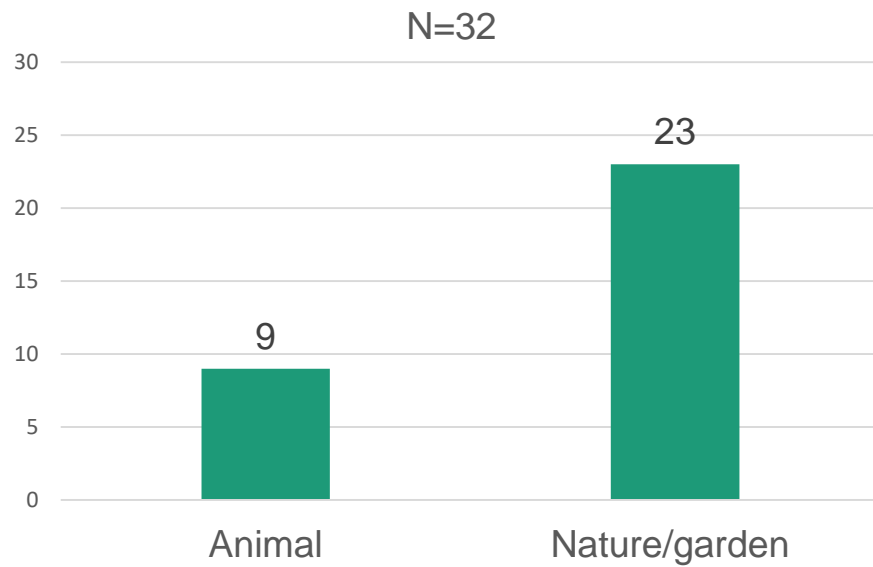
- Increase in sick leaves due to stress related mental disorders
- No established rehabilitation models for this patient group
- Limited success with existing methods
- Published research claiming positive health effects of nature exposure

32 listed NBR and their main target groups.



- Stress/ED/Depression, Anxiety
- Long-term unemployment / sick leave
- Unspecified

## Distribution of NBRs with or without animals



# Nature Based "green" Rehabilitation

Garden/nature environment

+

A multi disciplinary team

+

Therapeutic activities

# Green Rehab

## Gotheburg Botanical Garden

Region Västra Götaland



Is it possible to re-start a stalled  
rehabilitation process using  
Nature Based Rehabilitation?

**AND  
to prevent**

# Green Rehab's various branches of activity



- Rehabilitation 28 weeks x 4 halfdays/week
- Stress managment course  
12 weeks x 2 afternoons/week
- Manager and HR
- Information about the "Green Rehab model"

# Green Rehab: target groups

## The Rehabilitation programme:

- Employees in Region Västra Götaland on long sick leaves because of stress related mental disorders
- initially care had not been sufficient

## The Stress management courses

- Employees in Region Västra Götaland with escalating stress symptoms
- HR and supervisors



# The Rehabilitation-team at Green Rehab

## From the "green" sector

Biologist

Gardener

## From the "white" sector

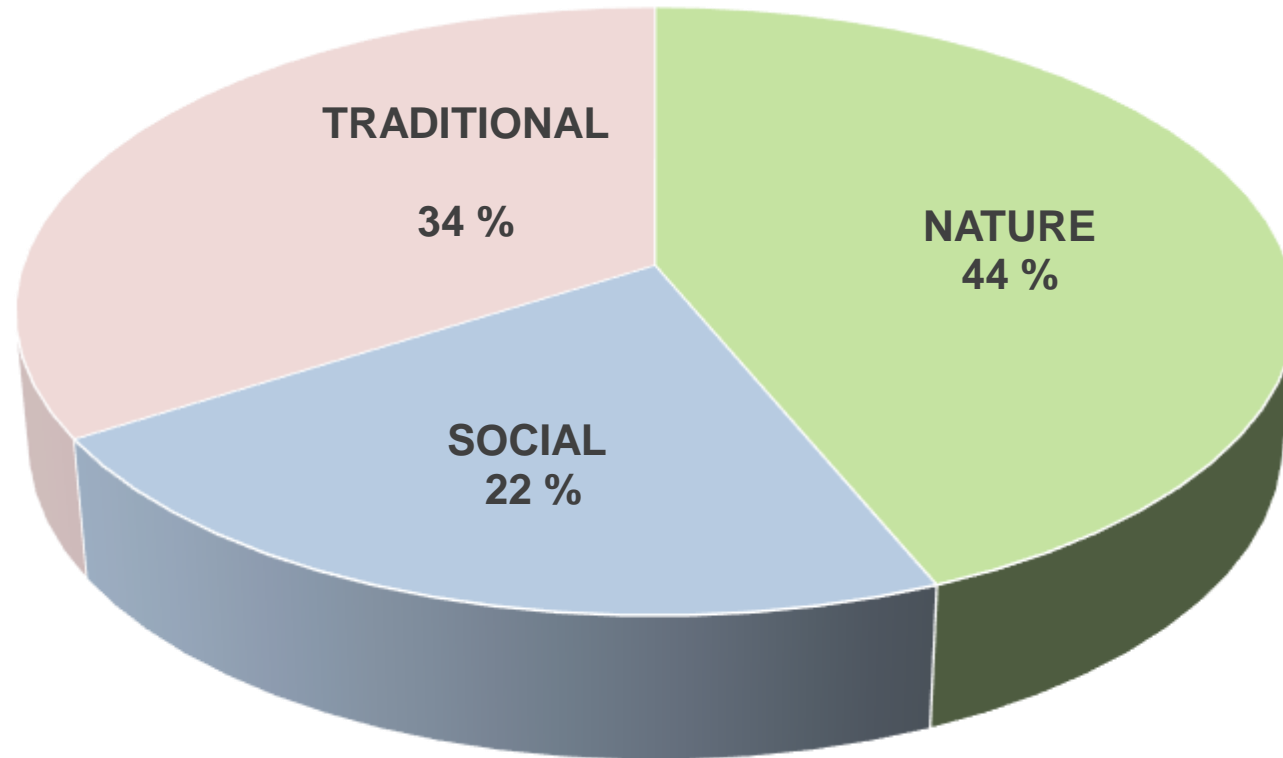
Physiotehrapist,

Psychotherapist

Occupational therapist

# Distribution of activities in the weekly schedule

## Green Rehab



Guided relaxation  
Guided (therapeutic)  
group conversations  
Art therapy  
Reflection on the week

Joint start in the  
morning including  
coffee/tea  
Extended break for  
coffee/tea, chatting

Guided nature walks  
Walks  
Garden activities  
Handicraft in nature  
materials

## The Green Rehab model



### Guided relaxation- Outdoors and indoors

*“The birds singing, you feel the sun, the wind - the senses become somehow more alert...”*

The Green Rehab model

Art work



Paint a calm and peaceful experience

## The Green Rehab model

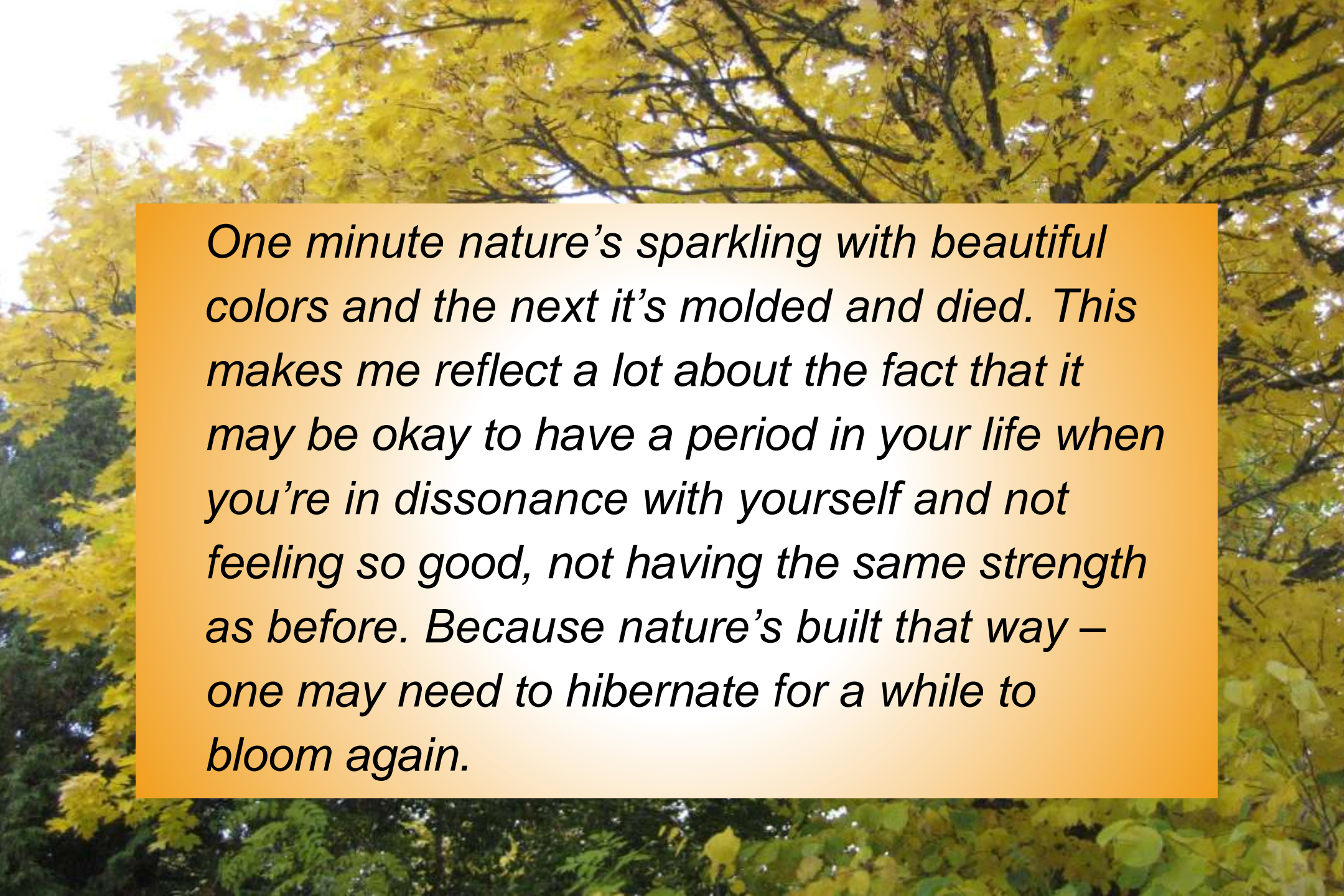
Supportive conversations-  
in group and individual

## Guided nature walks

- Stimulating knowledge—  
"opening of eyes"
- Other focus-distraction
- New interests
- Frequency
- **Existential reflections**

*"If I walk in the forest now, I see,  
I look at other things now and in  
a way I've never done before".*





*One minute nature's sparkling with beautiful colors and the next it's molded and died. This makes me reflect a lot about the fact that it may be okay to have a period in your life when you're in dissonance with yourself and not feeling so good, not having the same strength as before. Because nature's built that way – one may need to hibernate for a while to bloom again.*

# *Was it possible to re-start a stalled rehabilitation using the Green Rehab modell?*

## ***Self-assessment instruments***

- Burn out
- Depression
- Anxiety
- Well-being

Start – end-  
6 months -12 months

## ***Register data:***

- Health consumption
- Prescribed sick leave

Period 1: 1-6 months **before** start  
Period 2: 1-6 months **after** 16 weeks at  
Green Rehab  
Period 3: 7-12 months **after** period 2




# Results:

- Burn out
- Depression
- Anxiety
- Well being



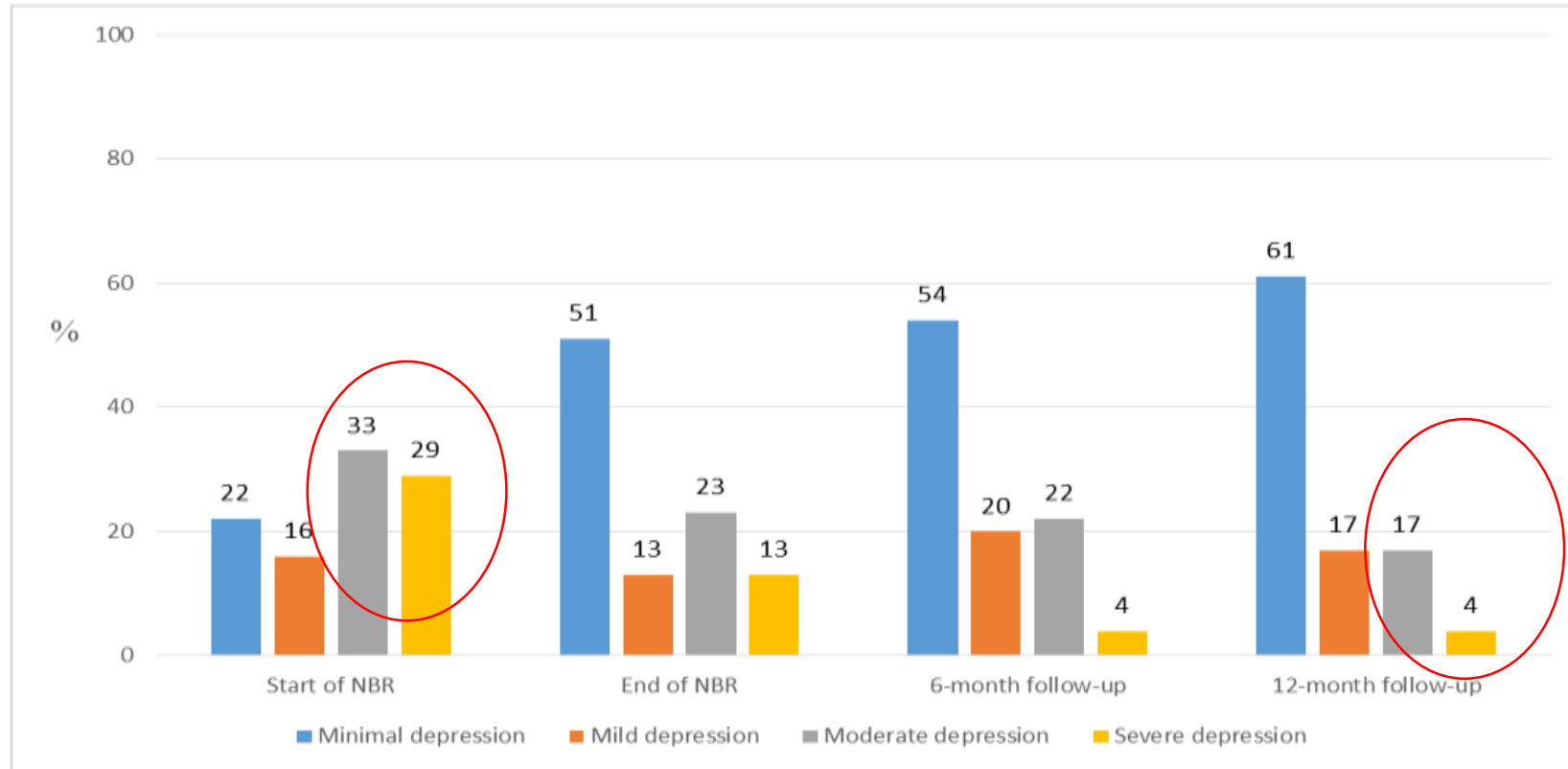
**Significant  
improvements**

- Sick leave
- Health care  
utilization



**Significant  
reductions**

# Depression (Becks Depression Inventory)



# Type of activity after Green Rehab

**90 % in activity**

Time of measurement	No activity	Work-training	Employment (salary)	Study /internships	Other
<i>End GR</i>	3 (7 %)	25 (61 %)	9 (22 %)	1	<i>Labor office activity- 1 Other rehab- 1 Seeking a retirement pension-1</i>
<i>6 months after GR</i>	3 (7 %)	10 (24 %)	23 (56 %)	2 (5 %)	<i>Labor office activity- 1 Other rehab - 1</i>

**increased activity rate**

# The cost of the rehabilitation

<i>Length of rehabilitation in weeks (mean)</i>	<b>27</b>
<i>Cost/rehabilitated participant</i>	<b>14 500 EUR</b>

The cost is refunded after about 12 months  
\* at a monthly salary of 2 000 EUR

## **Research questions :**

### **1. Any difference between start and follow ups in**

stress-related symptoms  
sick leave  
work-ability

### **2. Do participants obtain strategies and tools?**

### **3. How do they experience/evaluate the "green" content?**

## **Method:**

- **Study population:** 33 women
- **Inklusion-kriteria:** repeated sick leave, "stress- symptoms"
- **Measurements:** self-assessment instruments at 4 occasions and semi structured interviews

# ***The Stress-management course-- Results***

Burn out symptoms

--- decreased

Work-ability

--- "good work ability" increased

Sick leave

--- long sick leaves decreased

Stress-related symptoms

--- decreased

## **The nature content:**

- ☐ Stress reduction
- ☐ More in nature
- ☐ Increased satisfaction  
in gardening
- ☐ Knowledge

## **Tools and strategies**

- ☐ Mindfulness
- ☐ Listen to signals from the body
- ☐ Limit engagement
- ☐ Take breaks

## The stressmanagement course

# Burn out symptoms (Shirom Melamed Burn out questionnaire, SMBQ)

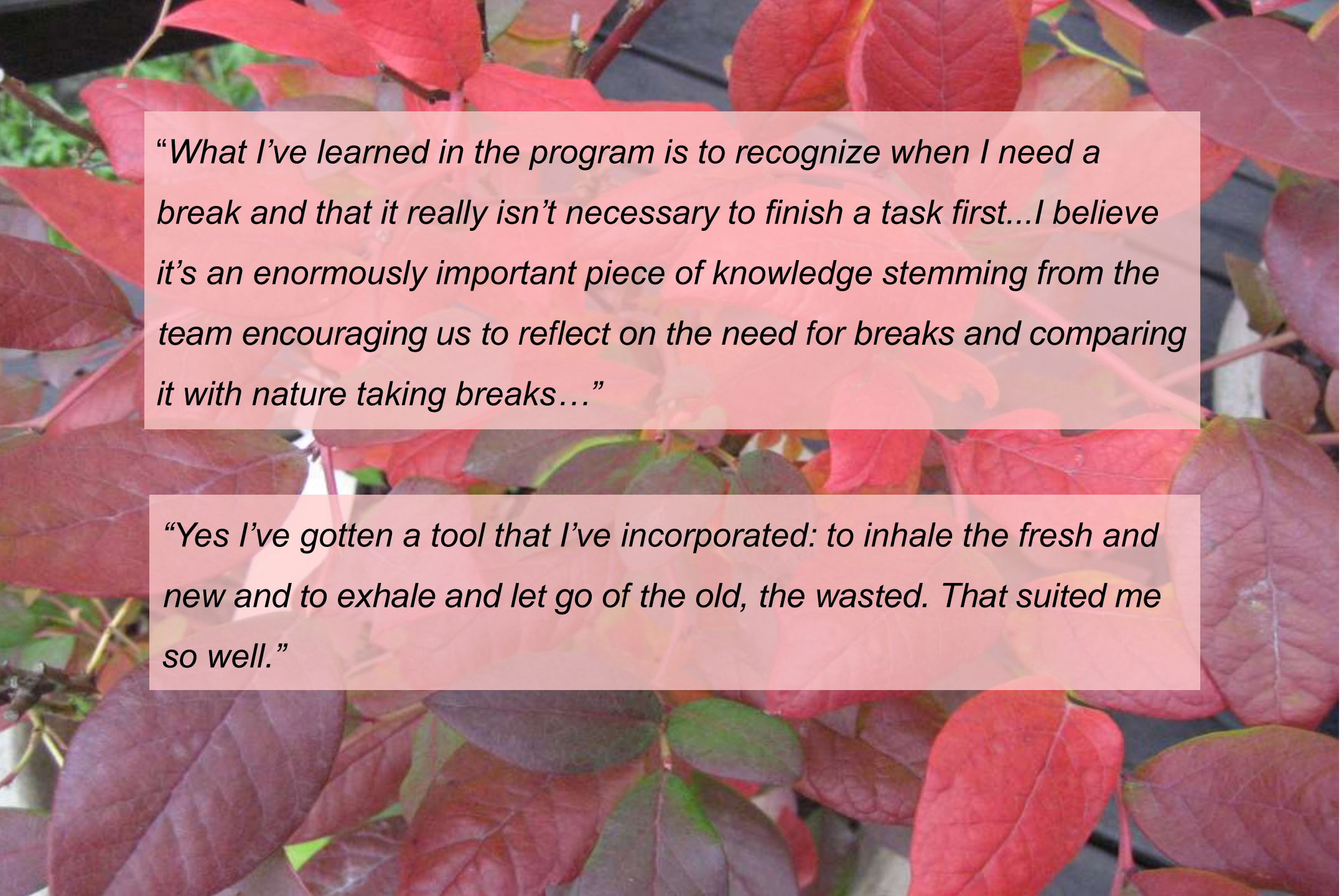
SMBQ score	Start N=33	Course end N=33	6-month follow-up N=33	12-month follow-up N=32
Mean (SD)	3.82 (1.03)	3.56 (1.06)	3.09 (1.21)	2.93 (1.10)

Ref.value 2.75

## Tools and Strategies

Use of new tools and strategies N=33	Course end Count (%)	6 months Count (%)	12 months Count (%)	A selection of responses from participants at 12-month follow-up regarding how tools/strategies help in stress management.
Use of new tools and strategies - yes - no	33(100) 0	31(94) 2 (6)	31(94) 2 (6)	
Relaxation/ breathing techniques	23 (67)	28 (85)	26 (79)	“I can detect early on when stress takes over – and then withdraw for breathing and mindfulness.” “Focus on breathing and body awareness.”
Using gardening /nature to handle stress	16 (48)	8 (24)	8 (24)	“Nature walks during leisure.” “When stressed, I watch trees and how their leaves are gently blowing.” “With eyes open, see the small things and details in nature.”
Say “no”; limiting engagement; taking breaks	16 (48)	16 (48)	20 (61)	“Taking small breaks, daring to say no, letting go of the need to control.” “Listen to signals from my body.”





*“What I’ve learned in the program is to recognize when I need a break and that it really isn’t necessary to finish a task first...I believe it’s an enormously important piece of knowledge stemming from the team encouraging us to reflect on the need for breaks and comparing it with nature taking breaks...”*

*“Yes I’ve gotten a tool that I’ve incorporated: to inhale the fresh and new and to exhale and let go of the old, the wasted. That suited me so well.”*

2 other successful models of Nature  
Based Rehabilitation

# **NBR- meeting outdoors**

Around the  
fire

Relaxation in  
hammocks in  
the woods

**NBR Naturkraft (“ Power of Nature”)  
-using different natural areas in the  
local environment**

# ”Naturkraft”: symptoms/diagnoses among the participants

Symptom/diagnosis	Number
Exhaustion Disorder	15
Depression	28
Anxiety	18
Exhaustion depression	2
Post Traumatic Stress Syndrome	2
Bipolar disorder	6
Social phobia	3
Tinnitus	5
Fibromyalgia	4
Personality disorder	4

Approx. 75%  
improved health

73% in diff. types of  
activity after NBR





*” Being in nature or in the garden is not so much about performance but to find yourself a bit. “*

**THANK YOU!**

*Foto Raija Hynenen-Svensson*