



**LEUPHANA**  
UNIVERSITÄT LÜNEBURG



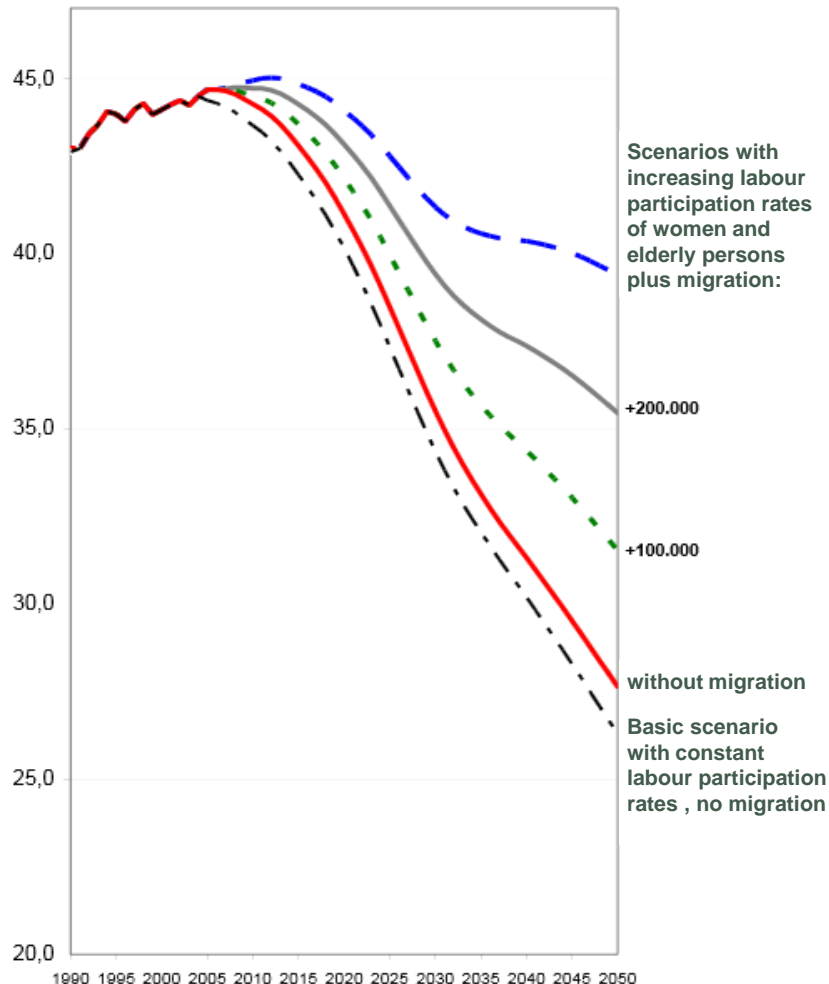
**Health promotion in SMEs – conceptualization and evaluation of a primary prevention measure related to skin protection**

**Authors:**

Mirella Cacace  
Valentina Draht  
Bettina Riegel  
Dieter Ratz



## BACKGROUND: WHY IS IT SO IMPORTANT TO BE HEALTHY AT WORK?



Source: Fuchs et al. 2011

- Workforce will **decrease by ~18.2 million** from 44.5 million in 2008 to 26.3 million in 2050 (constant labour participation rates, no migration)
- In 2010, on average, every employee was **12.6 days on sick leave**. Starting from a workforce of 36.6 million in 2010, this means **1.3 million inactive years** (BAuA 2011)
- In particular, **small and medium-sized enterprises (SME)** have difficulties to retain and recruit skilled workers
- In combination with a decreasing and ageing workforce, there is a need to maintain the workforce healthy, in particular for SME



## RESEARCH QUESTION: THE IDEA OF THE „HEALTHY AT WORK“ (GIB) PROJECT

### The project idea:

- Population ageing and a decreasing workforce pushes employers to keep their staff healthy. SMEs with notoriously low staffing levels and high demand of skilled workers have to offer prevention and occupational health services to promote the health of their employees
- The “healthy at work” project: support SMEs, in particularly micro-enterprises <10 employees, in the region of North-East Lower-Saxony by developing branch-specific prevention measures
- Focus on occupational skin diseases (OSD), which due to high incidence rates lead to considerable economic costs
- Develop trainings for the prevention of OSD at primary level by adopting concepts of the Germany statutory accident insurance carriers to the specific needs of SME

### Research aim:

- Conceptualization of a training for the prevention of OSD and evaluation by performing a two-arm randomized controlled trial (RCT) study

Conceptualization and evaluation: trainings for the prevention of OSD

# METHOD

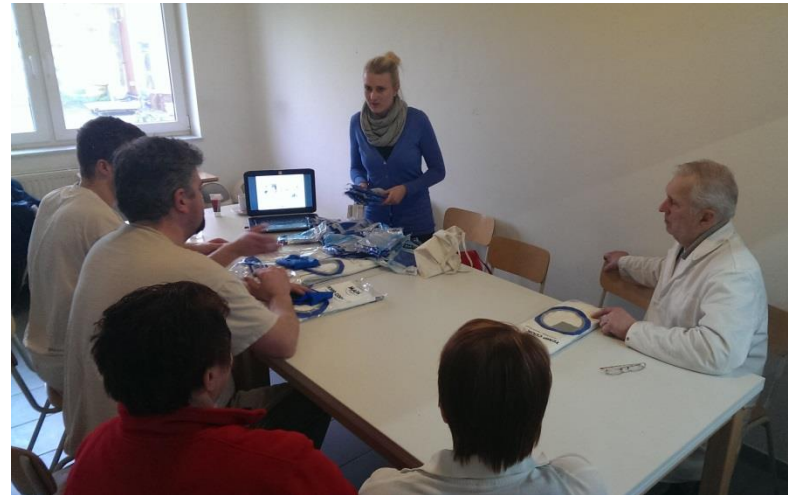


## METHOD: CONCEPTUALIZATION OF TRAININGS

- Intervention: 2-hour training on the prevention of OSD (on-the-spot)
- Trainings were based on applied concepts of the Germany statutory accident insurance carriers
- Adapted to the specific needs of SME and the branches most affected by OSD

- **Content:**

- Skin structure and function
- OSD (causes and the different kinds of eczema)
- Skin protection, incl. care measures
- Suspicion of an OSD: what to do? and regulations





## **METHOD: COST-EFFECTIVENESS EVALUATION**

### **Effectiveness**

- Two-arm randomized controlled trial (RCT) study
- Paper and pencil survey of employees
- Multiple waves of data collection: t0 = baseline, t1= two months and t2=6 months post intervention
- Five industrial branches particularly affected by OSD: floristry and gardening, outpatient and inpatient long term care, hairdressing, metalworking and bakery industry
- Data analysis using MS Excel and SPSS
- Due to the high drop-out rate, in particular in the last wave, data in t1 and t2 were analyzed together

### **Survey**

- Employees of 72 SME in the region of North-East Lower Saxony
- In total, 538 valid interviews received from 385 employees in all three waves (control group: 232; intervention group: 153)



## METHOD: RANDOMIZED CONTROLLED TRIAL (RCT)

### Effectiveness

- Knowledge about skin protection at work
- Change in behaviour: use of skin protection measures and skin care
- Symptoms according to Nordic Occupational Skin Questionnaire (NOSQ)\*
- Work satisfaction
- Presenteeism

### Costs

- Use of resources for planning and conducting the intervention
- Direct and indirect fixed and variable costs for staff, travelling expenses, and materials including overhead costs
- No time costs for employees considered as these differ largely between SME
- Calculated as an average per participant of trainings

\* German translation and cultural adaptation by TU Dresden, Institut und Poliklinik für Arbeits- und Sozialmedizin.

Analysis of the effectiveness of the skin protection trainings

# RESULTS





## CHANGES OF SKIN PROTECTION HABITS

- Comparison of means at time t1 show a positive effect of “GiB” skin protection trainings on the use of skin protection cream and skin care cream
- Significant positive effects on the use of appropriate gloves and on specialized gentle hand cleaning products

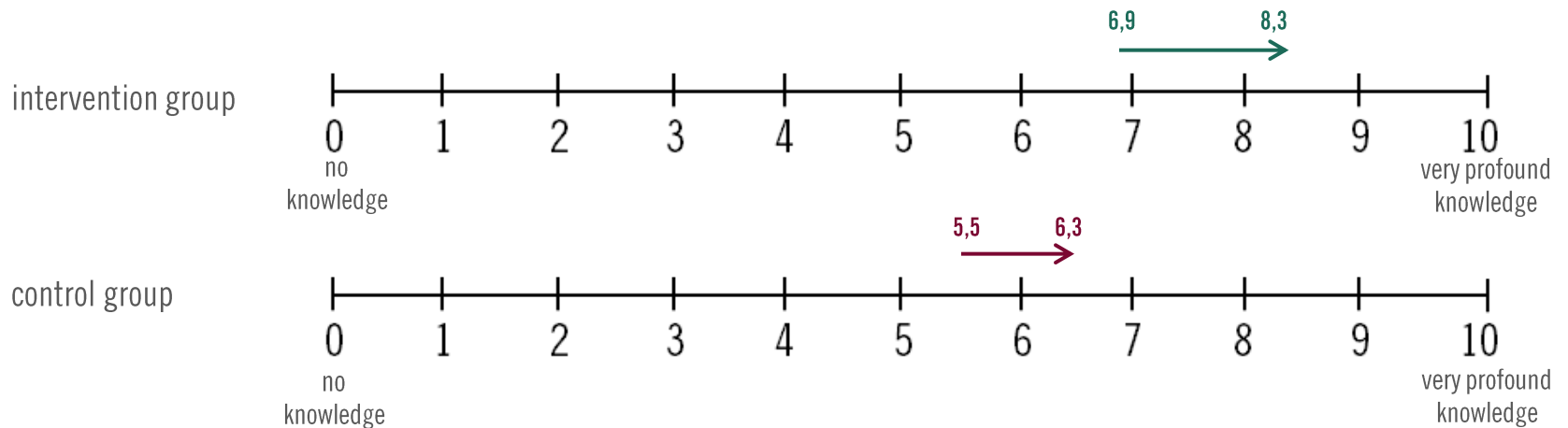
### Effects on preventive measures through skin protection trainings:





## CHANGE OF SKIN PROTECTION KNOWLEDGE

- Comparison over time: Significant improvement on skin protection knowledge at work between intervention and control group
- On a rating scale 1-11 (0 = no knowledge at all, 10 = very profound knowledge),
  - the intervention group improved significantly by 1.4 from 6.9 to 8.3
  - the control group improved slightly by 0.8 from 5.5 to 6.3



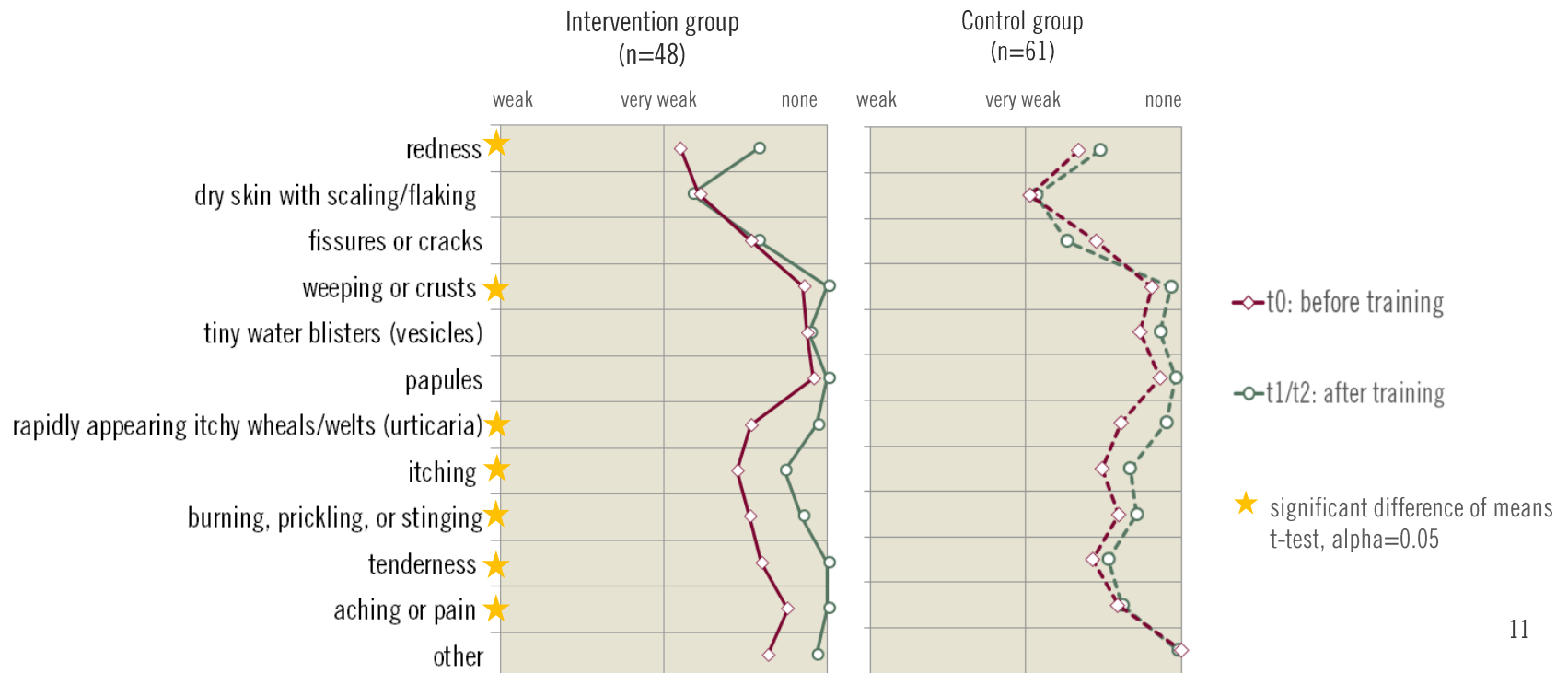
- The knowledge improvement of the control group is, amongst others, attributable to an alteration of behaviour due to the mere feeling of being studied/observed (Hawthorne effect)



## CHANGES IN SYMPTOMS

- Intervention group: strong and mainly significant positive effects of GiB skin protection trainings on multiple symptoms

### Effects of “GiB” skin protection trainings on symptoms:



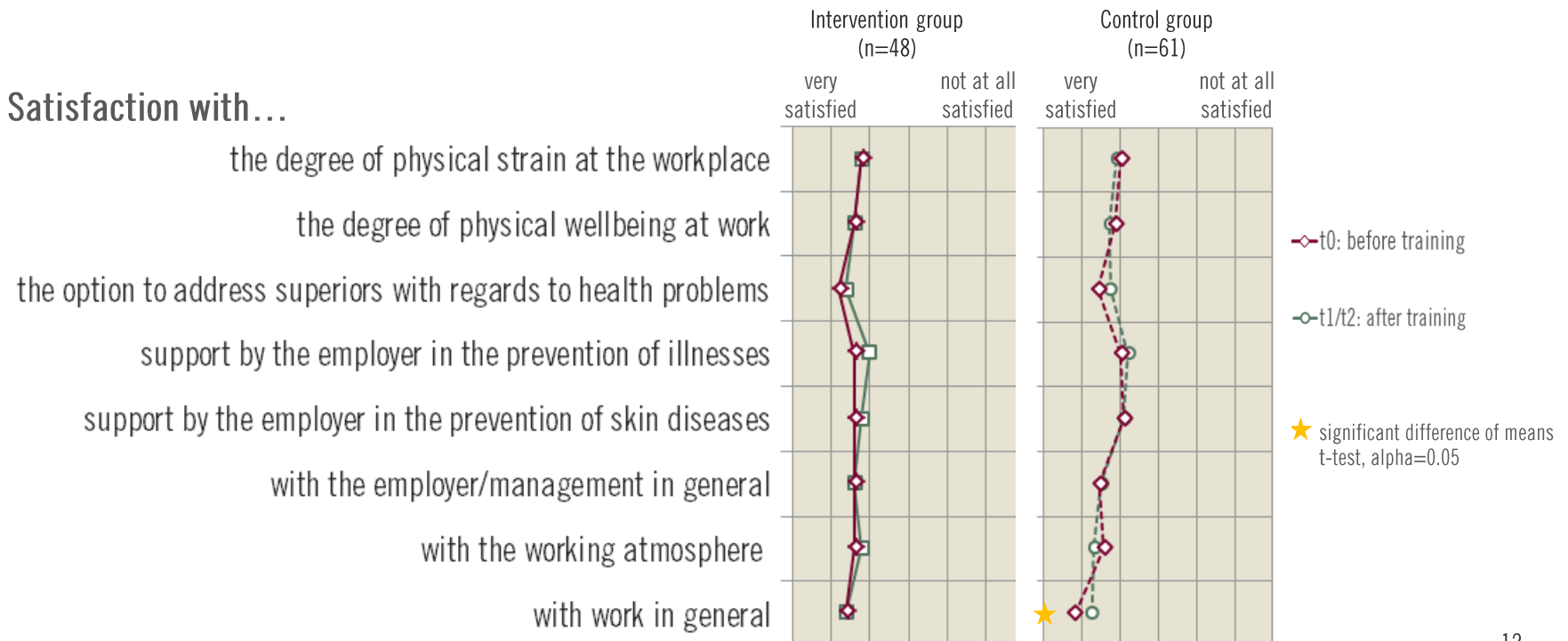


## CHANGES IN JOB SATISFACTION

- Intervention group: almost no measurable effect of GiB skin protection trainings on job satisfaction (e.g. with work or workplace)
- Very small changes in satisfaction concerning support of employer with regard to prevention measure

### Effects of GiB skin protection trainings on job satisfaction

#### Satisfaction with...





## RESULTS

- Average costs per participant: 63,50 €
- Of particular relevance for cost calculation is the rurality factor: travel time for the trainings was 2.5 hours per SME, with a distance of 123 kilometers on average

<b>TYPES OF COSTS</b>	<b>COSTS PER PARTICIPANT</b>
staff	34,97 €
travel	2,35 €
materials	15,00 €
overhead	11,18 €
<b>TOTAL</b>	<b>63,50 €</b>

- Average of 6.5 participants per training
- Reminder: time cost for employees not considered

**TAKE AWAYS**



## TAKE AWAYS

Significant effects of the “GiB” skin protection trainings with regard to:

- Knowledge on skin protection
- Usage habits of specific products
- Improvement of symptoms

Risks of OSD and emanating costs can be reduced with targeted primary prevention trainings

Other measures seem necessary to improve workers’ job satisfaction

**THANK YOU**