

Methodological challenges in studies on preventing recurrent SA

Iris Arends, PhD
University Medical Center Groningen

What you present/publish

Background

30% of all sickness absence is caused by mental health problems.

Dutch guideline for occupational physicians (OP): Facilitating return to work (RTW) of workers with common mental disorders (CMDs)

BUT: 20-30% experiences recurrent sickness absence

Workers: A need for guidance after RTW

OP/psychologists/human resources: More attention needed for the role of the supervisor

Methods

No. of SA episodes

1. Prevalence of sickness absence

2. Incidence of recurrent sickness absence

3. Time to recurrent sickness absence

4. Days of recurrent sickness absence

5. Incidence of recurrent sickness absence

6. Time to recurrent sickness absence

Results

INCIDENCE OF RECURRENT SICKNESS ABSENCE

TIME TO RECURRENT SICKNESS ABSENCE

MENTAL HEALTH / WORK FUNCTIONING / COPING

Discussion

Differentiate between relapse and recurrence?

Need for different interventions?

In RCTs with often small populations ever possible to look at recurrence days?

What to do with sickness absence history when looking at predictors?

Good, easy measures needed to assess what happens at the workplace

What you are struggling with

DEFINITIONS

Prevention

Recurrence

VARIABLE SELECTION

Recurrent sickness absence

Secondary outcomes

predictors/ confounders

DESIGN

Start of inclusion

Follow-up

RECURRENCE

Days of recurrent sickness absence

Incidence of recurrent sickness absence

Time to recurrence

PREDICTORS

Data on SA history not available

But also difficult: leaves all other variables insignificant

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Dutch guideline for occupational physicians (OPs):
Facilitating return to work (RTW) of workers with common mental disorders (CMDs) van der Klink 2007

Koopmans 2011;
Virtanen 2011

BUT: 20-30% experiences recurrent sickness absence

Workers: A need for guidance after RTW Noordik 2011

OPs/psychologists/human resources:

More attention needed for the role of the supervisor Oomens 2009

Methods

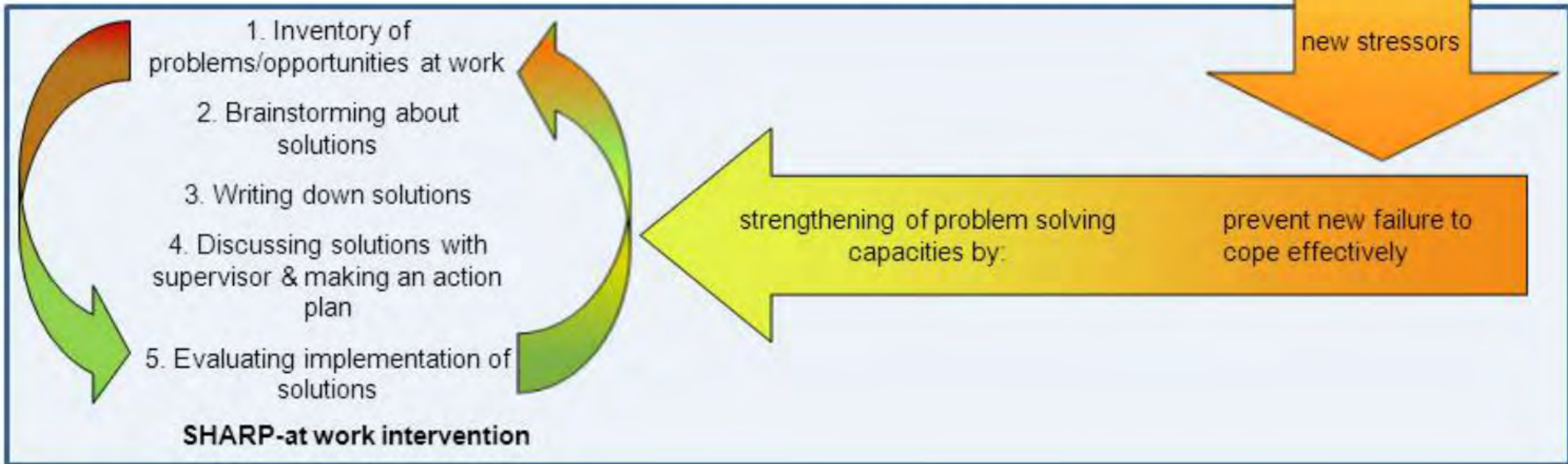
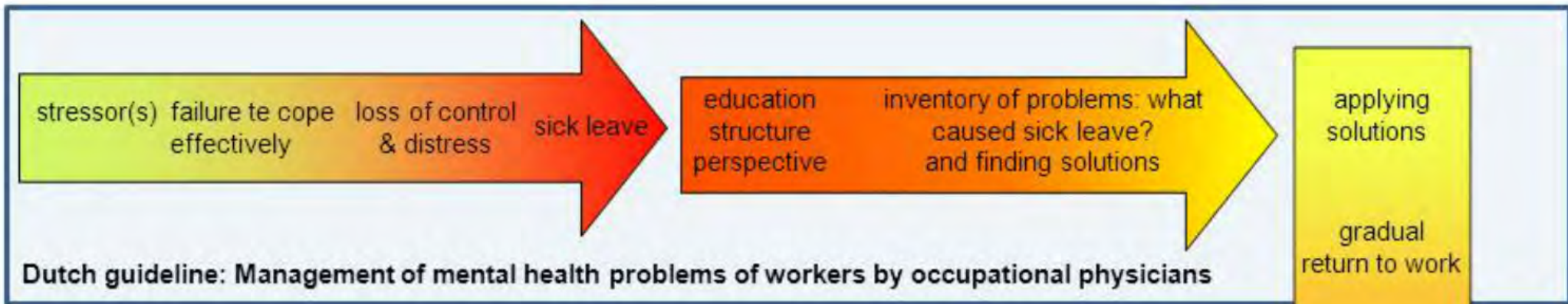
The SHARP-at work intervention

Goal	Prevention of recurrent sickness absence
Population	Workers with common mental disorders
Provider	Occupational physician (OP)
Content	5-step problem solving process



Study design

- 1. Cluster-randomised controlled trial**
- 2. Participants: workers - CMD - ready to start RTW**
- 3. SHARP-at work intervention vs. care as usual by OP**
- 4. Primary outcome: recurrent sickness absence**
Secondary outcomes: mental health, work functioning, coping
- 5. Evaluation: effect - process - economic**



Study design

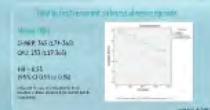
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MENTAL HEALTH / WORK FUNCTIONING / COPING

Outcome	Intervention (n=100)	Control (n=100)	OR (95% CI)	p-value
Mental health	15	12	1.2 (0.5-3.0)	0.70
Work functioning	18	15	1.2 (0.5-3.0)	0.70
Coping	12	10	1.2 (0.5-3.0)	0.70

Recurrent sickness absence (yes / no)

	0-3 m		3-6 m		6-12 m	
	yes	no	yes	no	yes	no
SHARP	11%	89%	21%	79%	34%	66%
	n = 75		n = 72		n = 71	
CAU	22%	78%	39%	61%	47%	53%
	n = 76		n = 74		n = 74	

OR = 0.40 (95% CI 0.20 - 0.81)

(adjusted for age, sex, educational level, baseline sickness absence days, mental health complaints)

Arends et al. OEM 2013

Time to first recurrent sickness absence episode

Median (IQR):

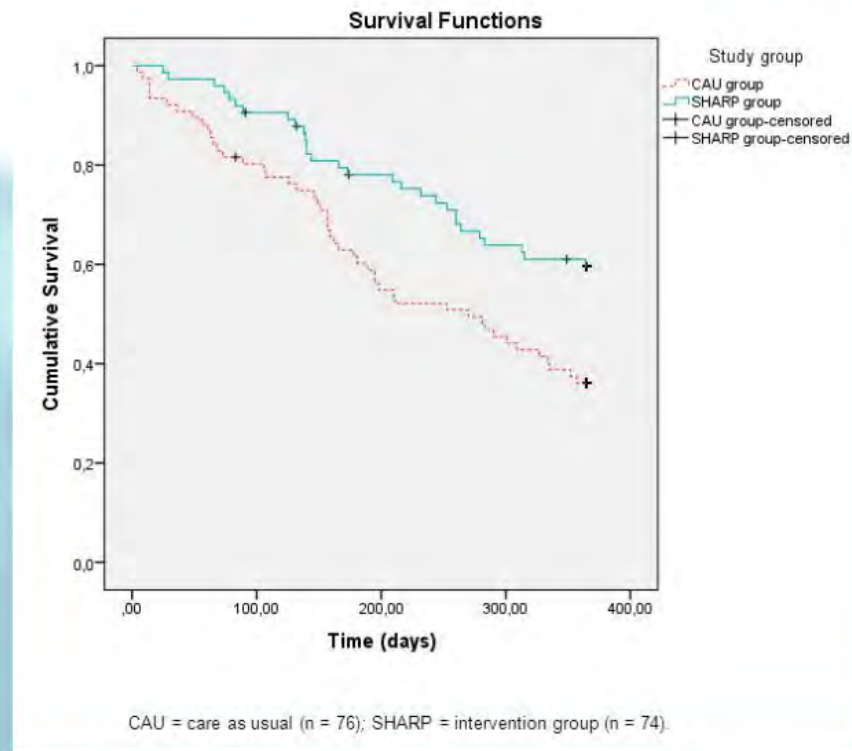
SHARP: 365 (174-365)

CAU: 253 (117-365)

HR = 0.53

(95% CI 0.33 to 0.86)

(adjusted for age, sex, educational level,
baseline sickness absence days, mental health
complaints)



Mental health / work functioning / coping

	T1 (3 months)			T2 (6 months)			T3 (12 months)		
	B	Lower	Upper	B	Lower	Upper	B	Lower	Upper
Secondary outcomes[†]									
4DSQ-Somatisation	0.69	-1.44	2.83	1.43	-0.80	3.66	1.71	-0.64	4.05
4DSQ-Distress	0.97	-2.00	3.94	1.69	-1.45	4.82	0.95	-2.38	4.27
4DSQ-Anxiety	0.66	-0.45	1.76	1.16	-0.01	2.33	0.64	-0.59	1.87
4DSQ- Depression	-0.03	-0.76	0.70	1.08[‡]	0.30	1.86	0.59	-0.25	1.42
HADS-Anxiety	0.59	-0.33	1.51	1.06[‡]	0.08	2.04	0.61	-0.43	1.65
HADS-Depression	-0.79	-1.87	0.29	0.48	-0.67	1.62	0.85	-0.36	2.06
WRFQ-Total score	-3.62	-9.01	1.76	1.08	-4.69	6.85	3.56	-2.64	9.75
UCL-Problem focused	0.14	-0.70	0.98	-0.39	-1.28	0.51	0.59	-0.35	1.53
UCL-Emotional	-0.37	-1.05	0.31	0.37	-0.35	1.09	0.05	-0.71	0.81
UCL-Distracton	0.78[‡]	0.07	1.49	0.38	-0.38	1.14	0.42	-0.39	1.23

[†]Analyses were corrected for baseline values, age, gender, educational level and sickness absence days at baseline.

[‡]P < 0.05.

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Primary prevention?

"prevention methods to protect healthy people from developing the disease"

Secondary prevention?

"prevention methods to reduce the impact of the disease"

Tertiary prevention?

"prevention methods to help people cope with/ manage the disease"

DEFINITIONS

Prevention

Recurrence

Recurrence or relapse?

Common used definition in the Netherlands:

"the start of a new episode of sickness absence after a recovery period of at least 28 days"

recurrence

→ does not capture struggles during RTW process

Our definition: "reduction in working hours of 30% or more, regardless of partial or full RTW"

relapse

e.g.: from 50% RTW to 20% RTW
or from 100% RTW to 70% RTW

VARIABLE SELECTION

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**predictors/
confounders**

Register data?



Registration of RTW % by companies



Not always in line with actual situation



OP medical records more reliable:
but no access and tedious work

Self-report data?



Ask about sickness absence days



Which part is recurrent sickness
absence?

VARIABLE SELECTION

Recurrent sickness absence

Secondary outcomes

**predictors/
confounders**



How does the intervention look like?
Which outcomes are likely to be affected?

DRAW A MODEL

Work functioning measures and/or presenteeism measures?

Still focus on mental health complaints?

Coping: trait versus state?

Challenge: collecting workplace outcomes

What has changed at the workplace?

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**predictors/
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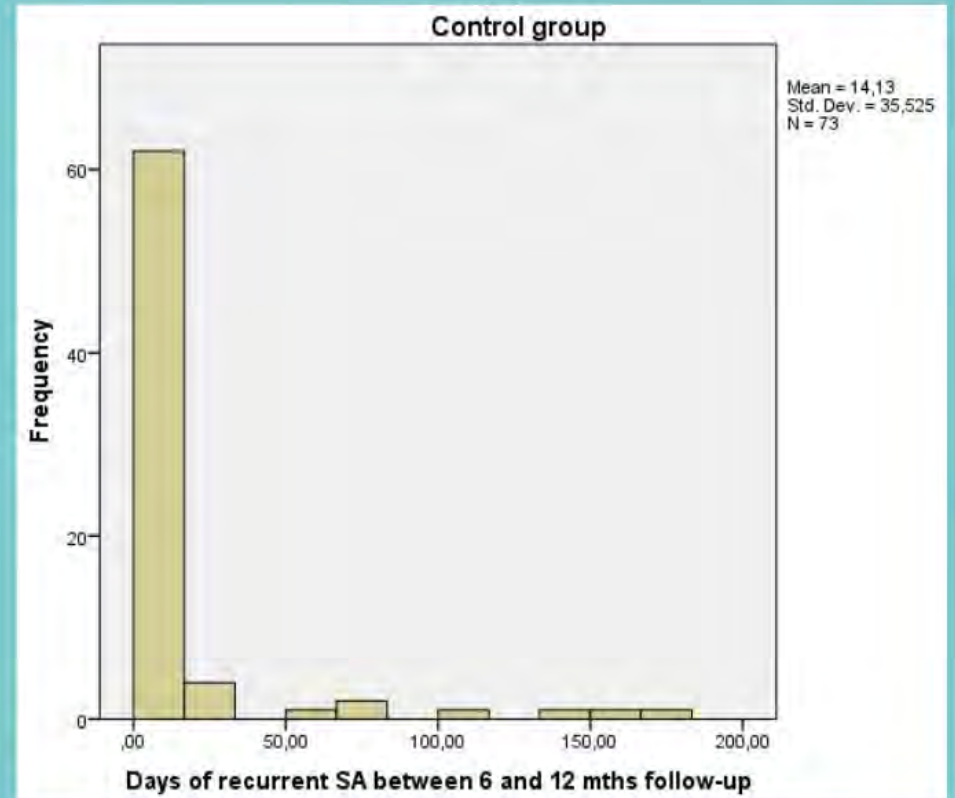
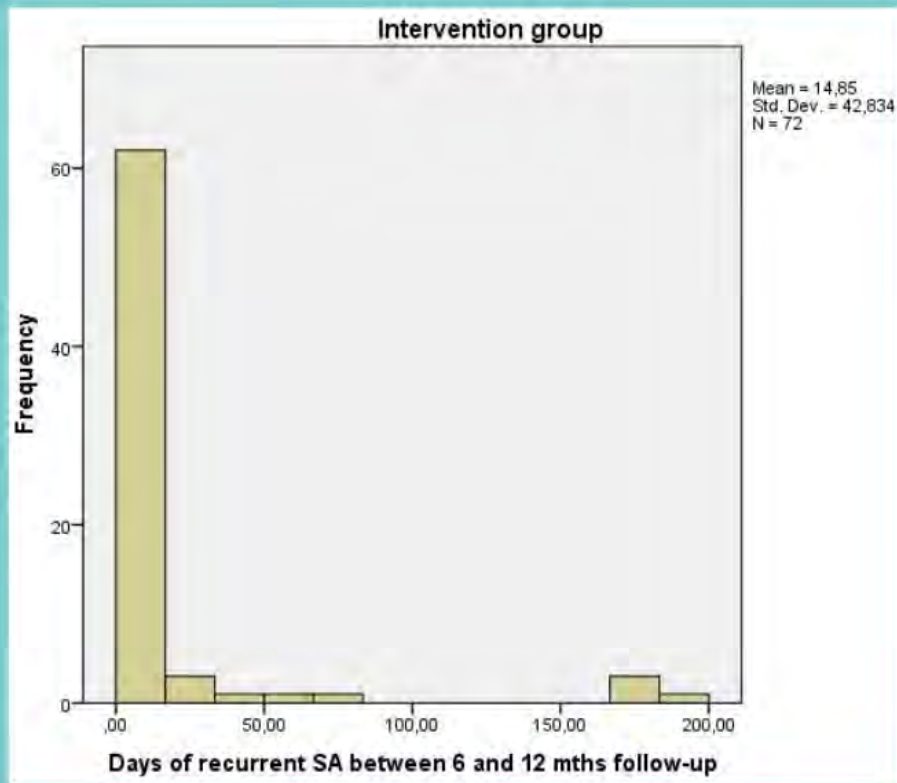
RECURRENCE

Days of recurrent sickness
absence

vs. 

Incidence of recurrent sickness
absence

Time to recurrence



RECURRENCE

Days of recurrent sickness
absence

vs. 

Incidence of recurrent sickness
absence

Time to recurrence

PREDICTORS

Data on SA history not available

But also difficult:
leaves all other variables insignificant

Predictor	Firm size			Firm age		
	B (SE)	T	P	B (SE)	T	P
Constant	0.000000	0.00	1.0000	0.000000	0.00	1.0000
Size	0.000000	0.00	1.0000	0.000000	0.00	1.0000
Age	0.000000	0.00	1.0000	0.000000	0.00	1.0000
SA history	0.000000	0.00	1.0000	0.000000	0.00	1.0000
Other variables	0.000000	0.00	1.0000	0.000000	0.00	1.0000

Aranda et al. 2010

Predictor ^a	Univariable analyses				Final multiple regression model ^b			
	B (SE)	OR	95% CI	P	B (SE)	OR	95% CI	P
Demographic								
Cohabiting, yes	0.52 (0.33)	1.69	0.88-3.23	0.11				
Disease-related								
Duration of sickness absence								
0-64 days	1.00							
65-127 days	-0.37 (0.34)	0.69	0.35-1.34	0.27				
>127 days	-0.46 (0.35)	0.63	0.32-1.25	0.19				
Use of psychopharmacologic medication, no	0.62 (0.32)	1.87	1.00-3.49	0.05				
One or more chronic diseases, no	-0.48 (0.29)	0.62	0.35-1.09	0.09	-.63 (0.30)	0.54	0.30-0.96	0.04
Work-related								
Tenure, 0-5 years	0.38 (0.29)	1.46	0.82-2.59	0.20				
Company size, <100	0.64 (0.30)	1.90	1.06-3.41	0.03	0.95 (0.31)	2.59	1.40-4.80	0.00
RTW percentage at baseline								
0-12	1.00							
13-49	0.47 (0.37)	1.60	0.78-3.29	0.20				
>49	0.78 (0.35)	2.19	1.11-4.32	0.02				
Supervisor social support								
0-9	1.00							
10-12	-0.62 (0.33)	0.54	0.28-1.03	0.06				
>12	-0.66 (0.48)	0.52	0.20-1.33	0.17				
Colleague social support								
0-11	1.00							
12	-0.64 (0.34)	0.53	0.27-1.02	0.06				
>12	-0.58 (0.41)	0.56	0.25-1.25	0.16				
Conflicts with supervisor, never	0.54 (0.29)	1.71	0.98-3.01	0.06	0.79 (0.31)	2.21	1.21-4.04	0.01
Job insecurity, no	0.57 (0.43)	1.77	0.76-4.09	0.19				

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①

Need for different interventions?

②

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③

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④

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