Coping With Strain Course (CWS) at the work place. Resilient and antidepressant effects: A four year randomized controlled trial and a new project in school

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Distribution of cost of illness to the society, Norway

Coronary heart disease
- 70% of 12.6 billion Euros
  - Lost life years: 13%
  - Healthcare costs: 11%
  - Disability: 11%
  - Loss of quality of life: 2%
  - Sickness absence: 4%

Cancers
- 82% of 12.8 billion Euros
  - Lost life years: 11%
  - Healthcare costs: 1%
  - Disability: 2%
  - Loss of quality of life: 4%
  - Sickness absence: 1%

Mental disorders
- 52% of 18.5 billion Euros
  - Lost life years: 13%
  - Healthcare costs: 15%
  - Disability: 7%
  - Loss of quality of life: 13%
  - Sickness absence: 13%

Norwegian Directorate of Health, 2015
Proportion of lost healthy life years (DALY) from mental disorders by diagnose, Norway 2013

- Depresjon
- Angst
- Stoff misbruk
- Bipolar
- Alkohol
- Schizofreni
- Andre
- CD
- AS

Norwegian Institute of Public Health, 2016
High risk strategies

Trolltunga, 700 meter above the Ringedal lake, Norway
Mental Well-being after Coping With Depression course (CWD) in high risk groups

Trolltunga, 700 meter above the Ringedal lake, Norway
1. Challenge to high risk approaches

- Too expensive, reach only a small fraction of those who develop depression, tends to ignore minority groups
- Most people at risk do not seek help, do not seek help until the condition has become serious, or professional help is simply not available to them
  - Ovens et al, 2003
- Even with optimal distribution of treatment we would only be able to avert one third of the burden of lost healthy life years from depression
  - Andrews et al. 2004
- Dissociated from prevention theory
  - Rose, 1992
If disease risk is widespread (viz. depression), measures that decrease risk for everyone are more effective in reducing the burden of disease than a ‘high-risk’ approach, in which measures are targeted only to those individuals with a substantially increased risk for disease (Rose, 1993).
Geoffrey Rose’s theory of prevention

Because: If disease rates rise continuously with higher levels of exposure to the risk factor, the larger number of people with a small elevation in risk will usually contribute more disease cases to the total burden of disease than the smaller number of people exposed to a high risk will do (Rose, 2008)
Displacement of a whole population to a lower risk category reaches more people than displacing individuals with a higher risk to a lower risk category.
2. A small effect size in the general population may be far more important for the public health than a large effect size in a high risk group ...
3. For practical purposes of prioritation and investing in promotive and preventive initiatives, effect sizes are of limited value as compared to cost-effectiveness calculations.
Coping With Strain Course (CWS)

- Modification of Coping With Depression (CWD) course which has long history, strong results (Lewinsohn, Weinstein & Alper, 1970; Lewinsohn et al., 1984; Muñoz et al., 1993; Cuijpers et al., 2009/2011, Dalgard, 2006)
- Adapted to be used by the general population, not specifically mental health problems e.g. depression
- Offered at the workplace to anyone who feels that they need to enhance their capability to cope with the strains of life
- Self-recruitment
Research questions

1. Does CWS delivered at the work place for free have sustainable longterm effects the level of depression in employees, i.e. public clerks?

2. Does CWS delivered at the work place have sustainable, longterm effects on the level of mental well-being and resilience in terms of sense of vitality, self esteem and self efficacy?
Design and procedure

• Advertisement for employees in four municipalities (intranet, poster, hand outs)
• 137 personer expressed wish to participate
• Suitability assessed in precourse interview
  – BDI-score and course manual instructions
  – Exclusion: Severe depression on BDI (≥ 30 points)
• N = 119 in 14 courses, 18 persons excluded
• Sickness leave: n = 48. Not sickness leave: n = 71
• Intervention gr.: n = 59; Delayed interv. gr.: n = 60
Delayed intervention design
Linear multilevel analysis

Fig. 1: Study design
The start of the follow-up period has been illustrated in Figure 1 by a shift in the timeline.
Observed vitality scores across eight time points in four years and expected levels according to best fitting model
Observed self-efficacy scores across eight time points in four years and expected levels according to best fitting model
Self-Esteem

Observed self-esteem scores across eight time points in four years and expected levels according to best fitting model.
Depression

Observed depression scores across eight time points in four years and expected levels according to best fitting model

Let’s go universal!
New study: Universal promotion of mental wellbeing and resilience in high school: Scaling up CWS. A ... year longitudinal randomized controlled trial
CWS-Adolescents

- CWD-A positive effects on adolescent depression (Garvik, Idsoe & Bru, 2013).
Intervention
Universal CWS-A in schools

- Weekly, 1 ½ hour, 8 weeks, 2 booster sessions
- Part of ordinary curriculum
- Issues to be discussed in the class
  - Development of self identity, worthiness and self respect linked to achievements versus personal characteristics
  - How to cope with expectancy pressure from others and oneself including look, mode, carrier, economy, sex, and being online in social media
  - Coping with conflicts, including social exclusion, bullying, and parent conflicts
Research problems – mental health

• Does CWS-A enhance mental wellbeing and resilience, sense of mastery and hope?
• Does CWS-A reduce dysfunctional thoughts and symptom levels of anxiety and depression?
• Does CWS-A reduce stigmatization of mental health problems?
Research problems – education and social integration

• Does CWS-A enhance the level of school grades?
• Does CWS-A prevent against drop out from school?
• How cost-effective is implementation of CWS-A in an ordinary high school curriculum?
• Do CWS-A participants experience CWS-A as useful (user satisfaction)?
• Later follow up by using register data: Does CWS-A prevent against shortened education and further education achievements, social services and disability awarding at young age.
Methods
Design

- Delayed intervention design
- N=3 600, high school students (16-17 yrs olds)
- 150 school classes in 7 municipalities in Follo region
- Divided into two intervention groups
- Randomization by school or school class – not decided
- Int 1: n = 1800; Int 2: n = 1800
Location

- Seven municipalities in the Follo region in South-East Norway
- Ski, Vestby, Enebakk, Nesodden, Oppegård, Ås, Frogn
- Total population: 135,956
Skaters in public child care center, Enebakk municipality
Drøbak city by the Oslo fjord, Frogn municipality
Ski city by the Glomma river, Ski municipality
Vinter in public child care center in Vestby municipality
• N=3600 (?) tested at the same time points
• One year delay between the the interventions
• Int group 2 acts as control for Int group 1 etc.
• Linear mixed models/multilevel analyses
  – School/municipality, school class, student
• Performance curves compared
• No no-intervention group
• Register based follow up after high school
• Cost-effectiveness analyses
Intervention Group 1

- Course start at M1_1
- Course ends at M1_2
- Further measurements from M1_3

Intervention Group 2

- Control group at M2_1 and M2_2
- Course starts at M2_3

Intervention Group 3

- College starts in autumn 2018
- Intervention starts in Sept 2018 (at M3_5)

Intervention Group 4

- Control group at M4_5 and M4_6
- Course starts at M4_7

**Fig 1:** Study design

There are 900 students in each intervention group. Intervention: course for 8 weeks, 2 x 45 minutes.
Additionally, there are two booster sessions: after 3 weeks and 6 weeks (after the intervention, however without measurements).

- Measurement (questionnaires in the classroom, 20-30 minutes)
- = June 2020 and further measurements after college.

Intervention group 1: course start at M1_1, course ends at M1_2. Further measurements from M1_3.
Intervention group 2: control group at M2_1 and M2_2, and starts the course at M2_3.
Intervention group 3: starts college autumn 2018, the intervention starts in Sept 2018 (at M3_5).
Intervention group 4: control group at M4_5 and M4_6, until the course starts at M4_7.
Mental wellbeing/resilience measures

- Self-efficacy: General Perceived Self-Efficacy Scale (Røysamb, Schwarzer, Jerusalem, 1998)
- Self-esteem: Rosenberg self esteem scale RSES (Rosenberg, 1965)
- Vitality (four items from SF-36) Ware & Sherbourne, 1992)
- Mental health perception (five items) SF-36 (ditto)
- Hope: Herths Hope Index (HHI)
- Oslo social support scale (Dalgard, 206)
Mental distress measures

- Depression: BDI (Beck, Ward, Mendelson, 1961)
- Anxiety: General Anxiety Disorder 7-item scale (GAD 7)
- Dysfunctional cognition: Dysfunctional Attitude Scale (DAS)
- Stigma: not decided
Other measures

- User satisfaction: measure not decided
- Cost-effectiveness (calculations)
- Social background
- Follow up after graduation by register data:
  - School grades, school drop out, length and level of education, employment, use of social services such as sickness absence, disability awards etc.
Observed vitality scores across eight time points in four years and expected levels according to best fitting model.
Depression

Observed depression scores across eight time points in four years and expected levels according to best fitting model.
Future research?
- Prevention theory
- Universal
- Mental health promotion
- Outside health services
- Dimensional approach
- Cost-effectiveness
- Longitudinal
- Young people
Research group

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