

# Effekt av primærforebyggende tiltak mot stress og belastninger for yrkesaktive

Notat fra Kunnskapssenteret  
Systematisk litteratursøk med sortering  
November 2015

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Nasjonalt kunnskapssenter for helsetjenesten  
Oslo, november 2015.

# Hovedfunn

Kunnskapssenteret ved Seksjon for velferdstjenester fikk i oppdrag fra Helsedirektoratet å utføre et systematisk litteratursøk med påfølgende sortering av mulig relevante publikasjoner. Oppdraget var å finne forskning om effekt av primærforebyggende tiltak for å hindre stress og belastninger blant yrkesaktive.

## Metode

Vi utarbeidet søkestrategi for et systematisk litteratursøk. Vi søkte i relevante forskningsdatabaser i september 2015. To forskere gikk uavhengig av hverandere gjennom identifiserte referanser og vurderte relevans i forhold til inklusjonskriteriene.

## Resultater

- Vi identifiserte totalt 118 relevante referanser
  - 3 mulige oversikter over oversikter
  - 22 mulige systematisk oversikter
  - 93 randomiserte kontrollerte studier
- 84 av studiene var publisert mellom 2010-2015
- 8 av de randomiserte kontrollerte studiene var fra et nordisk land
- Det var flest studier som omtalte tiltak rettet mot helsepersonell, slik som sykepleiere og leger
- Det var også mange studier som beskrev tiltak rettet mot lærere, industriarbeidere, kontorarbeidere og statlig ansatte
- De to hyppigst undersøkte tiltakstypene var psykososiale tiltak og mindfulness (oppmerksomt nærvær)

Det fins mye oppsummert forskning og primærforskning på effekten av primærforebyggende tiltak for å hindre stress og belastninger blant yrkesaktive. Mye av forskningen er rettet mot helsepersonell og omhandler psykoedukative tiltak og mindfulness. I dette systematiske litteratursøket med sortering har vi ikke lest artiklene i sin helhet og dermed ikke vurdert studienes metodiske kvalitet eller sammenstilt resultatene. Vi kan derfor ikke trekke noen konklusjoner angående studienes resultater. En full systematisk oversikt eller formidling av oppsummert forskning vil kunne gi et godt grunnlag for å vurdere effekten av primærforebyggende tiltak for å hindre stress og belastninger blant yrkesaktive.

### Tittel:

Effekt av primærforebyggende tiltak mot stress og belastninger for yrkesaktive

### Publikasjonstype:

Systematisk litteratursøk med sortering

Systematisk litteratursøk med sortering er resultatet av å

- søke etter relevant litteratur ifølge en søkestrategi og
- eventuelt sortere denne litteraturen i grupper presentert med referanser og vanligvis sammendrag

### Svarer ikke på alt:

- Ingen kritisk vurdering av studienes kvalitet
- Ingen analyse eller sammenfatning av studiene
- Ingen anbefalinger

### Hvem står bak denne publikasjonen?

Kunnskapssenteret har gjennomført oppdraget etter forespørsel fra Helsedirektoratet

### Når ble litteratursøket utført?

Søk etter studier ble avsluttet september 2015.

# Key messages

The Norwegian Knowledge Centre for the Health Services was commissioned by the Norwegian Directorate of Health to conduct a systematic literature search and subsequent categorization of relevant research. The commission aimed to identify research on the effectiveness of primary prevention strategies for preventing work-related stress and occupational injuries among workers.

## Methods

We conducted a search strategy for a systematic literature search. Searches were carried out in September 2015. Two researchers independently screened all identified references to assess inclusion according to predefined criteria.

## Results

- In total, we identified 118 relevant references
  - 3 potential overviews of overviews
  - 22 potential systematic reviews
  - 93 randomized controlled trials
- 84 of the studies were published between 2010-2015
- 8 randomized controlled trials were from a Nordic country
- The majority of the studies targeted health personnel, such as nurses and doctors
- There were also many studies that targeted teachers, blue collar industry employees, and governmental employees
- The two most frequently described interventions were psychoeducational approaches and mindfulness

There is a substantial amount of systematic research and primary research about the effectiveness of primary prevention strategies for preventing work-related stress and occupational injuries among workers. Much of this research targets health personnel and concerns psychoeducational strategies and mindfulness. In this systematic literature search we have not read the articles in full and hence neither critically evaluated the studies nor synthesized the results. Thus, we can not draw any conclusions regarding the studies' results. A full systematic review or summaries of existing systematic reviews would provide a good evidence-base for assessing the effectiveness of primary prevention strategies for preventing work-related stress and occupational injuries among workers.

### Title:

The effect of prevention interventions for occupational stress among workers

### Type of publication:

## Systematic reference list

A systematic reference list is the result of a search for relevant literature according to a specific search strategy. The references resulting from the search are then grouped and presented with their abstracts.

### Doesn't answer everything:

- No critical evaluation of study quality
- No analysis or synthesis of the studies
- No recommendations

### Publisher:

Norwegian Knowledge Centre for the Health Services

### Updated:

Last search for studies: September 2015.

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# Innhold

<b>HOVEDFUNN</b>	<b>2</b>
<b>KEY MESSAGES</b>	<b>3</b>
<b>INNHold</b>	<b>4</b>
<b>FORORD</b>	<b>5</b>
<b>INNLEDNING</b>	<b>6</b>
Problemstilling	6
Bakgrunn	6
Styrker og svakheter ved litteratursøk med sortering	7
<b>METODE</b>	<b>9</b>
Litteratursøking	9
Inklusjonskriterier	9
Eksklusjonskriterier	10
Artikkelutvelging	10
<b>RESULTAT</b>	<b>11</b>
Resultat av søk	11
Resultat av sorteringen	11
Liste over inkluderte studier	14
<b>REFERANSER</b>	<b>16</b>
<b>VEDLEGG</b>	<b>18</b>
Vedlegg 1 - Søkestrategi	18
Vedlegg 2 - Tabeller over inkluderte studier	25

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# Forord

Seksjon for velferdstjenester ved Nasjonalt kunnskapssenter for helsetjenesten fikk i oppdrag fra Helsedirektoratet å finne studier om effekt av primærforebyggende tiltak mot stress og belastninger for yrkesaktive. Studiene i vår referanseliste kan bidra til å kartlegge dette feltet, og å spisse problemstillingen for en fremtidig systematisk oversikt.

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# Innledning

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## Problemstilling

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I dette prosjektet søkte vi etter forskning som kunne belyse effekten av primærforebyggende tiltak mot stress og belastninger for yrkesaktive.

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## Bakgrunn

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Norsk sysselsettingspolitikk tar sikte på å legge til rette for at alle arbeidstakere kan være yrkesaktive og for å skape mer inkluderende arbeidsmiljøer for å forebygge og redusere sykefraværet gjennom økt samarbeid mellom partene i arbeidslivet (1).

I Norge har yrkesdeltakelsen økt for både menn og kvinner, med størst økning for kvinner (2). I 2014 omfattet arbeidsstyrken 68 % av kvinner og 74 % av menn mellom 15 og 74 år. I følge Statistisk Sentralbyrå er yrkesdeltakelsen i Norge preget av høy vekst i heltidssysselsetting og høyere gjennomsnittlig ukentlig arbeidstid. Arbeidsledigheten er 4,5 %, med minimale kjønnsforskjeller (2).

Sykefravær er et komplekst folkehelsefenomen, som påvirkes av flere faktorer, for eksempel arbeidsmiljø, helsevesenet og individuell helse (3). Sykefraværet genererer en betydelig byrde i europeiske land (4) og representerer en sterk indikator på dårlig fremtidig helse, fysiske plager, lav mental trivsel og lav arbeidsevne (5).

I Norge har gjennomsnittlig antall sykefraværsepisoder økt i løpet av de siste årene (6). Norge er nå det landet i Europa som har det høyeste sykefraværet, med nesten 16,1 dager tapt per person per år (7). Den Nordiske sosial-statistiske komite publiserte nylig følgende fakta om sykefraværet i Norden (8):

- Kvinner har generelt sett høyere sykefravær enn menn.
- Eldre arbeidstakere har mer langvarig sykefravær enn yngre arbeidstakere.
- Kommunale ansatte har mer sykefravær enn ansatte i staten og i privat sektor.
- Yrkessektorene som omfatter offentlig administrasjon, utdanning og helse har et spesielt høyt sykefravær.



- De nordiske landene har brukt lignende strategier for å redusere sykefraværet, f.eks tett oppfølging av langtidssykemeldte, arbeidsevnevurdering og muligheten for gradert sykmelding for syke ansatte.
- Den tette oppfølging av syke oppført med arbeidsevnevurdering har vist blandede resultater, mens muligheten for gradert sykmelding ser ut til å inkludere flere personer med redusert gjennomførbarhet på arbeidsmarkedet i alle de nordiske landene (8).

Muskel- og skjelettlidelser er den vanligste arbeidsrelatert sykdommen i Norge, etterfulgt av psykiske helseproblemer. Arbeidsrelaterte muskel- og skjelettplager kan forebygges siden mange av risikofaktorer omhandler røyking og høy kroppsmasse. Andre risikofaktorer inkluderer tunge fysiske belastninger (dvs. repetisjon, ubekvemme stillinger og tunge løft), høye psykososiale arbeidskrav og tilstedeværelsen av komorbiditet (9).

Noen studier har funnet at forebyggende tiltak, slik som bruk av armstøtte og andre ergonomiske modifikasjoner kan redusere forekomsten av både nakke og øvre lem lidelser (10,11). I tillegg kan stress føre til svekkelser på kognitiv funksjon og til og med angst og depresjon (12). Flere forebyggende tiltak er blitt beskrevet i litteraturen når det gjelder stress blant arbeidere, for eksempel arbeidstilpasning, endret deltakelse, team-arbeid, kognitive atferdsmetoder, avslapping, osv. (13,14). Mye forskning konkluderer med at videre forskning om strategier for å forebygge stress og belastningslidelser blant yrkesaktive bør gjennomføres for på sikt å kunne redusere byrden av sykefraværet.

I dette prosjektet søkte vi etter forskning som kunne belyse effekten av primærforebyggende tiltak for å hindre stress og belastninger blant yrkesaktive. Vi utførte et systematisk litteratursøk med påfølgende sortering av mulig relevante studier.

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## **Styrker og svakheter ved litteratursøk med sortering**

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Ved litteratursøk med sortering gjennomfører vi systematiske litteratursøk for en gitt problemstilling. Resultatene fra søket blir grundig gjennomgått for å sortere ut ikke-relevante artikler. Dette gjøres basert på tittel og sammendrag. Artikkene innhentes ikke i fulltekst. Det gjør at vi kan ha inkludert studier som ville vist seg ikke å være relevante ved gjennomlesning av fulltekst. Vi benytter kun databaser for identifisering av publisert litteratur og kan derfor ha gått glipp av potensielt relevante studier. Andre måter å identifisere studier på, som søk i referanselister, kontakt med eksperter på fagfeltet og søk etter upublisert litteratur, er ikke utført i dette oppdraget. Ved litteratursøk med sortering gjennomfører vi ingen metodisk kvalitetsvurdering av artikkene og vi sammenstiller ikke resultatene.

Ved en full forskningsoppsummering ville vi ha innhentet artiklene i fulltekst for endelig vurdering opp mot inklusjonskriteriene. Inkluderte studier ville så blitt kvalitetsvurdert i henhold til våre sjekklister og resultatene ville så blitt sammenstilt og diskutert.

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# Metode

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## Litteratursøking

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Vi søkte systematisk etter litteratur i følgende 13 internasjonale databaser:

- MEDLINE (Ovid)
- EMBASE (Ovid)
- PsycINFO (Ovid)
- Cochrane Database of Systematic Reviews
- Cochrane CENTRAL
- Database of Abstracts of Reviews of Effects (DARE)
- Health Technology Assessments Database (HTA)
- CINAHL
- Epistemonikos
- ISI Web of Science Core Collection
- Sociological Abstracts
- PubMed
- Campbell Library

Forskningsbibliotekar Ingvild Kirkehei planla og utførte søkene, og søket ble fagfelevurdert av forskningsbibliotekar Marit Johansen. Vi la bestillingen til grunn ved utarbeiding av litteratursøket og søkte etter publikasjoner som oppfylte våre inklusjonskriterier for populasjon og tiltak. På grunn av den store mengden forskning på dette feltet ble søket avgrenset til systematiske oversikter og randomiserte kontrollerte studier publisert i løpet av de siste 15 årene (dvs. f.o.m. år 2000). Søket etter studier ble avsluttet i september 2015. Den fullstendige søkestrategien er vist i vedlegg 1.

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## Inklusjonskriterier

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**Populasjon:** Yrkesaktive/arbeidstagere 16-70 år. Alle yrkesgrupper, inklusive deltidsansatte.

<b>Tiltak:</b>	Primærforebyggende tiltak mot stress og belastninger med hensikt å hindre stress og belastningsskader blant friske arbeidstakere, inklusive risikogrupper.
<b>Sammenlikning:</b>	Ingen tiltak, alternative (aktive) tiltak.
<b>Utfall:</b>	Alle helseutfall samt sykefravær, målt hos arbeidstakeren, eksempelvis: stress, belastning, somatisk helse, mental helse, bruk av alkohol og andre rusmidler (inkludert medikamenter).
<b>Studiedesign</b>	Systematiske oversikter (inkludert oversikter over oversikter), randomisert kontrollert studier (RCT).
<b>Språk:</b>	Ingen begrensning.

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## **Eksklusjonskriterier**

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<b>Populasjon:</b>	Ansatte som allerede lider av stress og belastninger. Populasjoner i lavinntektsland og andre land som ikke er sammenlignbare med Norge.
<b>Studiedesign:</b>	Observasjonsstudier.

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## **Artikkelutvelging**

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To forskere (JM og JB) gikk gjennom alle titler og sammendrag for å vurdere relevans i henhold til inklusjonskriteriene. Vi benyttet programvaren Covidence og utførte vurderingene uavhengig av hverandre og sammenlignet i etterkant. Der det var uenighet om vurderingene ble inklusjon eller eksklusjon avgjort ved diskusjon, og i noen tilfeller konsultasjon med en tredje person (RB).

Utvelging av litteratur ble gjort kun basert på tittel og sammendrag. Vi bestilte ikke fulltekst av artiklene og vi har derfor ikke vurdert studienes metodiske kvalitet eller sammenstilt resultatene.

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# Resultat

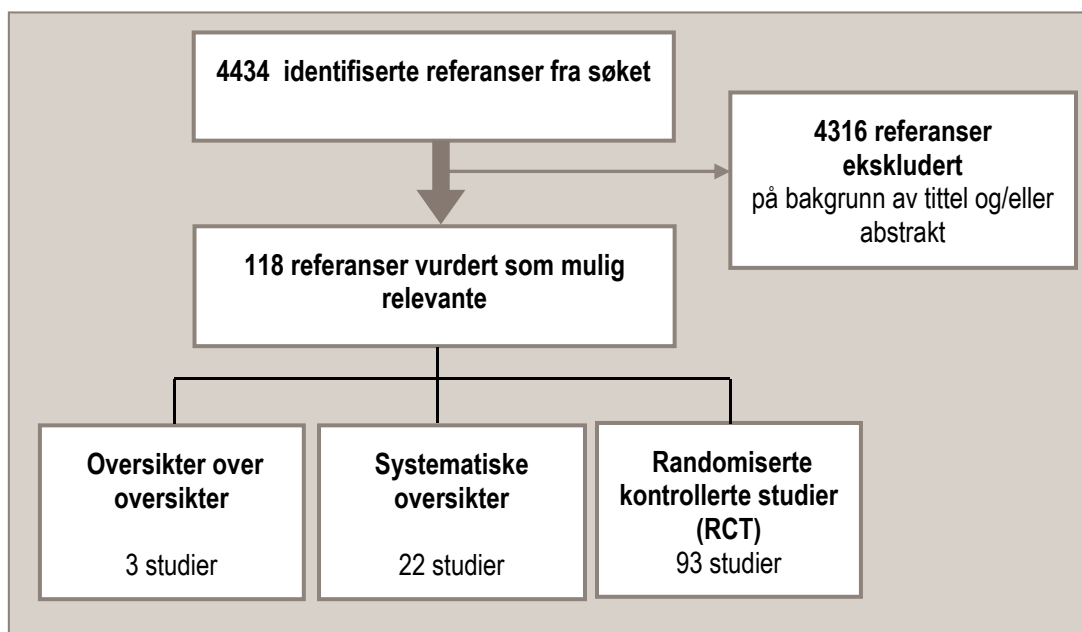
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## Resultat av søk

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Søket resulterte i 4434 referanser. Vi vurderte 118 av de identifiserte referansene til å være mulig relevante i henhold til inklusjonskriteriene.

Hovedårsaken til eksklusjon var studiedesign. Mange oversiktsartikler redegjorde ikke for en systematisk metode for identifisering av litteratur og mange primærstudier hadde ikke kontrollgruppe eller de var kohorter.



Figur 1. Flytskjema over identifisert litteratur

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## Resultat av sorteringen

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Vi identifiserte totalt 118 relevante studier: 3 mulige systematiske oversikter over oversikter, 22 mulige systematiske forskningsoversikter, og 93 randomiserte kontrollerte studier (RCT). Syttien prosent av disse studiene var publisert mellom 2010-2015.

De systematiske oversiktene over oversikter og de systematiske forskningsoversiktene er «mulig» systematiske fordi vi ikke vet om de faktisk tilfredsstillende alle kriteriene for systematiske oversikter, slik det for eksempel er formulert i Kunnskapssenterets håndbok *Slik oppsummerer vi forskning* (<http://www.kunnskapssenteret.no/verktoy/slik-oppsummerer-vi-forskning>). Oversikter over oversikter inneholder en sammenstilling av systematiske oversikter. Systematiske forskningsoversikter inneholder en sammenstilling av primærstudier (for nærmere beskrivelse, se Kunnskapssenterets håndbok *Slik oppsummerer vi forskning*). For å vurdere om slike studier er systematiske oversikter måtte vi ha lest studiene i fulltekst.

Vi sorterte de 22 mulige systematiske oversiktene etter yrkestype (tabell 1), RCTene i henholdt til yrkestype (tabell 2) samt tiltak / behandlingstype (tabell 3). Vi nevner at åtte av RCTene var fra nordiske land:

- Danmark: Christensen et al. 2013 (vedlegg 2, tabell 7), Klatt et al. 2012 (vedlegg 2, tabell 6)
- Finland: Nurminen et al. 2002 (vedlegg 2, tabell 6), Haukka et al. 2010 (vedlegg 2, tabell 16)
- Norge: Eriksen et al. 2002 (vedlegg 2, tabell 7)
- Sverige: Brinkborg et al. 2011 (vedlegg 2, tabell 12), Eklöf et al. 2006, Ost et al. 2014 (vedlegg 2, tabell 16)

I vedlegg 2 oppgir vi forfattere, tittel på publikasjonen, publikasjonssted og sammendrag av alle publikasjonene slik de fremkom i de elektroniske databasene.

### **Oversikter over oversikter**

Vi identifiserte tre mulige oversikter over oversikter. Bergerman og kolleger (2009) undersøkte effekten av organisatoriske tiltak for å forebygge yrkesrelatert stress.

Forfatterne inkluderte seks oversikter. Bhui og kolleger (2012) undersøkte effekten av individuelle, organisatoriske og blandede tiltak på to utfall, nemlig psykisk helse og sykefravær. Forfatterne inkluderte 23 oversikter. Den tredje oversikten over oversikter, av Jacobs og medforfattere (2013), undersøkte organisatoriske tiltak for å forebygge eller håndtere stress på arbeidsplassen. Abstraktet inneholder ikke informasjon om hvor mange oversikter som ble inkludert. Disse tre oversiktene over oversikter er presentert i vedlegg 2, tabell 1.

### **Systematiske forskningsoversikter**

Det var 22 mulige systematiske oversikter som møtte inklusjonskriteriene. Disse var publisert mellom 2001-2015, men hele 68 % (15 av 22) var publisert i løpet av de siste 5 årene. Tre av de mulige systematiske oversiktene var publisert i Cochrane Library.

Åtte oversikter var rettet mot helsepersonell, tre var rettet mot andre arbeidere (politi, advokater og psykologer). 11 studier rapport ikke hvilken yrkesgruppe tiltakene var rettet mot (tabell 1). Disse forskningsoversiktene tok for seg alle mulige tiltak for å forebygge stress og belastninger for yrkesaktive (oversiktsforfatterne nevnte ingen spesifikke tiltak i sammendragene).

**Tabell 1:** Antall systematiske forskningsoversikter sortert etter yrkestype

Yrke	Antall referanser: 22
Helsepersonell	8
Andre (politi, advokater, psykologer)	3
Ikke spesifisert	11

### Randomiserte kontrollerte studier (RCTer)

Vi identifiserte 93 RCTer som møtte inklusjonskriteriene. Det var flest RCTer som var rettet mot helsepersonell (n=41, 44 %), men det var også mange studier rettet mot kontorarbeidere, lærere og ansatte i industrisektor (tabell 2).

**Tabell 2:** Antall RCTer sortert etter yrkestype

Yrker	Antall referanser: 93
Helsepersonell	
Sykepleiere	15
Leger	12
Helsepersonell (ikke nærmere spesifisert)	14
Industri	10
Lærere	10
Kontorarbeidere	4
Statlig ansatte	4
Andre*	8
Ikke spesifisert	16

\* 'Andre' inkluderer ulike yrkesgrupper, slik som politi, kjøkkensjefer, «white-collar workers» og sosialarbeidere.

Blant de 93 RCTene var det flest studier som omhandlet psykoedukative tiltak (n=14) og mindfulness / oppmerksomt nærvær tiltak (n=12). Det var også noen studier som omhandlet andre typer tiltak, slik som massasje, avslapning og ergonomi (tabell 3).

**Tabell 3:** Antall RCTer sortert etter tiltakstype

Tiltak	Antall referanser: 93
Psykoedukativ	14
Mindfulness / oppmerksomt nærvær	12
Helsefremmende, livsstil og atferdsendring	10
Komplementær/alternativ medisin	8
Kognitiv atferdsterapi	6
Avslapning	6
Mosjon og fysisk aktivitet	6
Acceptance and commitment therapy (ACT)	4
'Resilience' trening	3
Massasje	3
'Stress management' tiltak	3
Ergonomi	2
Andre*	16

\* 'Andre' inkluderer ulike tiltak, slik som tilbakemelding, selvhjelpsprogram og trening i kommunikasjonsferdigheter.

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## Liste over inkluderte studier

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Vedlegg 2 lister de 118 inkluderte studiene med referanser og sammendrag. Vi oppgir forfattere, tittel på publikasjonen, publikasjonssted og sammendrag av alle publikasjonene slik de fremkom i de elektroniske databasene. Studiene er organisert i følgende tabeller:

- Tabell 1: Oversikter over oversikter (n=3)
- Tabell 2: Systematisk oversikter sortert etter yrkestype – Helsepersonell (n=8)
- Tabell 3: Systematiske oversikter sortert etter yrkestype – Andre (n=3)
- Tabell 4: Systematiske oversikter sortert etter yrkestype – Ikke spesifisert (n=11)
- Tabell 5: RCTer studier sortert etter behandlingstype – Psykoedukativ (n=14)
- Tabell 6: RCTer sortert etter behandlingstype – Mindfulness (n=12)
- Tabell 7: RCTer sortert etter behandlingstype – Helsefremmende, livsstil og atferdsendring (n= 10)
- Tabell 8: RCTer sortert etter behandlingstype – Komplementær/alternativ medisin (n= 8)
- Tabell 9: RCTer sortert etter behandlingstype – Kognitiv atferdsterapi (n=6)
- Tabell 10: RCTer sortert etter behandlingstype – Avslapning (n=6)
- Tabell 11: RCTer sortert etter behandlingstype – Mosjon og fysisk aktivitet (n=6)



- Tabell 12: RCTer sortert etter behandlingstype – Acceptance and Commitment Therapy (n=4)
- Tabell 13: RCTer sortert etter behandlingstype – Resilience trening (n=3)
- Tabell 14: RCTer sortert etter behandlingstype – Massasje (n=3)
- Tabell 15: RCTer sortert etter behandlingstype – Stress-management (n=3)
- Tabell 16: RCTer sortert etter behandlingstype – Ergonomi (n=2)
- Tabell 17: RCTer sortert etter behandlingstype – Andre (n=16)

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# Referanser

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# Vedlegg

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## Vedlegg 1 - Søkestrategi

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Søket ble utført av Ingvild Kirkehei og fagfelleverdert av Marit Johansen.

Dato for alle søk: 4.9.2015

Avgrensninger: Søket ble avgrenset til systematiske oversikter og randomiserte kontrollerte studier publisert f.o.m. 2000.

### **Epistemonikos**

Søketreff: Overview 9, systematic review 162, structured summary 26, primary study 166

Søkestrategi:

((title:(Burnout OR "employee assistance program" OR "employee assistance programs" OR "employee distress" OR ("health promotion" AND work\*) OR "Job related stress" OR "Job stress" OR "Occupational health intervention" OR "Occupational health interventions" OR "occupational health service" OR "occupational health services" OR "occupational healthcare service" OR "occupational healthcare services" OR "Occupational stress" OR "stress at work" OR ("Stress management" AND work\*) OR ("stress reduction" AND work\*) OR "stress reduction interventions" OR "Work related stress" OR "Work related ill-health" OR "Work related illness" OR "Work related illnesses" OR "workplace stress")) OR abstract:(Burnout OR "employee assistance program" OR "employee assistance programs" OR "employee distress" OR ("health promotion" AND work\*) OR "Job related stress" OR "Job stress" OR "Occupational health intervention" OR "Occupational health interventions" OR "occupational health service" OR "occupational health services" OR "occupational healthcare service" OR "occupational healthcare services" OR "Occupational stress" OR "stress at work" OR ("Stress management" AND work\*) OR ("stress reduction" AND work\*) OR "stress reduction interventions" OR "Work related stress" OR "Work related ill-health" OR "Work related illness" OR "Work related illnesses" OR "workplace stress")) OR title:((work OR "work-related" OR workplace OR employee\* OR job OR occupational OR employment) AND (stress OR strain))

Publication year 2000-2015

For avgrensning søket til randomiserte kontrollerte studier, ble søket ovenfor avgrenset med AND all fields: random\*

## **ISI Web of Science Core Collection**

Søketreff: 793

Søkestrategi:

# 9 #6 AND #5

Refined by: Databases: ( WOS ) AND PUBLICATION YEARS: ( 2013 OR 2010 OR 2014 OR 2006 OR 2012 OR 2007 OR 2015 OR 2004 OR 2001 OR 2011 OR 2005 OR 2000 OR 2009 OR 2003 OR 2008 OR 2002 )

# 8 #6 AND #5

Refined by: Databases: ( WOS )

# 7 #6 AND #5

# 6 TOPIC: (("systematic" NEAR/2 "review") or "meta-analysis" or "randomized" or "randomised")

# 5 #4 OR #3 OR #2 OR #1

# 4 TITLE: ("occupational health")

# 3 TOPIC: (((("burnout" or "work stress" or "job stress" or "occupational stress" or "work related stress" or "job related stress" or "workplace stress" or "stress at work"))))

# 2 TOPIC: (("health promotion" NEAR/1 "work") or ("Stress management" NEAR/1 "work") or ("stress reduction" NEAR/1 "work"))

# 1 TITLE: (("work" or "work-related" or "work related" or "workplace" or "employee" or "employees" or "job" or "employment") and ("stress" or "strain"))

## **MEDLINE, EMBASE, PSYCINFO (samsøk i Ovid)**

### **Embase 1980 to 2015 Week 35**

**MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily, Ovid MEDLINE(R) and Ovid OLDMEDLINE(R) 1946 to Present**

### **PsycINFO 1806 to September Week 1 2015**

Søketreff: Embase 915, MEDLINE 2683, PsycINFO 1329. 3881 totalt etter dublett-kontroll

Søkestrategi:

1. exp Work/

2. Workplace/

3. Workload/

4. Employment/

5. or/1-4

6. Health Promotion/

7. Stress, Physiological/

8. Stress, Psychological/

9. or/6-8

10. 5 and 9

11. Burnout, Professional/
12. Occupational Health/
13. Occupational Health Services/
14. or/11-13
15. (Burnout or employee assistance program\* or employee\* distress or (health\* promotion adj1 work\*) or Job related stress or Job stress or Occupational health\* intervention\* or occupational health\* service\* or Occupational stress or stress at work or (Stress manag\* adj1 work\*) or (stress reduc\* adj1 work\*) or stress reduc\* intervention\* or (Wellness program\* adj1 work\*) or Work related stress or Work related ill-health or Work related illness\* or workplace stress).tw. or ((work or work-related or workplace or employee\* or job or occupational or employment) and (stress or strain)).ti.
16. 10 or 14 or 15
17. exp animals/
18. Humans/
19. 17 not 18
20. 16 not 19
21. (systematic\* adj2 review\*).tw. or meta analys\*.mp. or ((systematic\* or literature or database\*) adj3 search\*).tw. or (review and (pubmed or medline)).tw.
22. random\*.mp.
23. trial.ti.
24. or/21-23
25. 20 and 24
26. 25 use pmoz (MEDLINE)
27. \*work/ or \*workplace/
28. \*workload/
29. \*employment/
30. or/27-29
31. \*health promotion/
32. \*stress/ or \*acute stress/ or \*behavioral stress/ or \*chronic stress/ or \*emotional stress/ or \*life stress/ or \*mental stress/
33. or/31-32
34. 30 and 33
35. \*burnout/
36. \*job stress/
37. 34 or 35 or 36 or 15
38. "systematic review"/
39. 38 or 24
40. 37 and 39
41. animal.sh. not human/
42. 40 not 41
43. limit 42 to embase
44. 43 use emez (EMBASE)

45. exp Work Load/
46. occupational health/ or work related illnesses/
47. occupational stress/
48. 45 or 46 or 47 or 15
49. ("meta analysis" or "systematic review" or "2000").md.
50. 49 or 24
51. 48 and 50
52. (animal not human).po.
53. 51 not 52
54. 53 use psych (PSYCINFO)
55. 26 or 44 or 54
56. limit 55 to yr="2000 -Current"
57. remove duplicates from 56

### **CINAHL (via Ebsco)**

Søketreff: 403

Søkestrategi:

S25 S16 AND S23 Limiters - Exclude MEDLINE records; Published Date:

20000101-20150931

S24 S16 AND S23

S23 S17 OR S18 OR S19 OR S20 OR S21 OR S22

S22 TI trial

S21 TI random\* OR AB random\*

S20 (MH "Randomized Controlled Trials") OR (PT "Randomized Controlled Trial")

S19 TI ( (systematic\* N2 review\*) or meta-analys\* or ((systematic\* or literature or database\*) N3 search\*) or (review and (pubmed or medline) ) OR AB ( (systematic\* N2 review\*) or meta-analys\* or ((systematic\* or literature or database\*) N3 search\*) or (review and (pubmed or medline) )

S18 (MH "Meta Analysis") OR (PT "Meta Analysis")

S17 (MH "Systematic Review") OR (PT "Systematic review")

S16 S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15

S15 TI (work or work-related or workplace or employee\* or job or occupational or employment) and (stress or strain)

S14 TI ( Burnout or employee assistance program\* or employee\* distress or (health\* promotion N1 work\*) or Job related stress or Job stress or Occupational health\* intervention\* or occupational health\* service\* or Occupational stress or stress at work or (Stress manag\* N1 work\*) or (stress reduc\* N1 work\*) or stress reduc\* intervention\* or (Wellness program\* N1 work\*) or Work related stress or Work related ill-health or Work related illness\* or workplace stress ) OR AB ( Burnout or employee assistance program\* or employee\* distress or (health\* promotion N1 work\*) or Job related stress or Job stress or Occupational health\* intervention\* or occupational health\* service\* or Occupational stress or stress at work or (Stress manag\* N1 work\*) or (stress reduc\* N1 work\*) or stress reduc\* intervention\* or

(Wellness program\* N1 work\*) or Work related stress or Work related ill-health or Work related illness\* or workplace stress )

S13 (MH "Occupational Health Services")

S12 (MH "Occupational Health")

S11 (MH "Burnout, Professional")

S10 (MH "Stress, Occupational+")

S9 S5 AND S8

S8 S6 OR S7

S7 (MH "Stress") OR (MH "Stress, Psychological")

S6 (MH "Health Promotion") or (MH "Stress Management")

S5 S1 OR S2 OR S3 OR S4

S4 (MH "Employment")

S3 (MH "Workload")

S2 (MH "Work Environment")

S1 (MH "Work")

### **Cochrane Library**

Søketreff: Cochrane Reviews 37, DARE 102, HTA 28, CENTRAL 994

Søkestrategi:

#1 MeSH descriptor: (Work) explode all trees

#2 MeSH descriptor: (Workplace) explode all trees

#3 MeSH descriptor: (Workload) explode all trees

#4 MeSH descriptor: (Employment) explode all trees

#5 #1 or #2 or #3 or #4

#6 MeSH descriptor: (Health Promotion) this term only

#7 MeSH descriptor: (Stress, Physiological) this term only

#8 MeSH descriptor: (Stress, Psychological) explode all trees

#9 #6 or #7 or #8

#10 #5 and #9

#11 MeSH descriptor: (Burnout, Professional) explode all trees

#12 MeSH descriptor: (Occupational Health) explode all trees

#13 MeSH descriptor: (Occupational Health Services) explode all trees

#14 (Burnout or (employee\* next assistance next program\*) or (employee\* next distress) or (health\* promotion near/1 work\*) or "Job related stress" or "Job stress" or (Occupational next health\* next intervention\*) or (occupational next health\* next service\*) or "Occupational stress" or "stress at work" or (Stress next manag\* near/1 work\*) or (stress next reduc\* near/1 work\*) or (stress next reduc\* next intervention\*) or (Wellness next program\* near/21 work\*) or "Work related stress" or "Work related ill-health" or (Work next related next illness\*) or "workplace stress"):ti,ab,kw

#15 #10 or #11 or #12 or #13 or #14 Publication Year from 2000 to 2015

#16 "occupational safety and health group" Publication Year from 2000 to 2015

#17 ((work\* or employee\*) and (stress\* or strain\*)):ti

#18 #15 or #16 or #17



## **Sociological Abstracts (via ProQuest)**

Søketreff: 9

Søkestrategi:

S8 5 and 6 Publication date 2000 – 2015

S7 5 and 6

S6 anywhere((systematic\* NEAR/2 review\*) or "meta-analyses" or "meta-analyses" or ((systematic\* or literature or database\*) NEAR/3 search\*) or (review\* and (pubmed or medline))) OR (randomised or randomized)

S5 1 or 2 or 4

S4 ti((work or "work-related" or "work related" or "workplace" or employee\* or employment or job) and (stress or strain)) OR anywhere(burnout or "work stress" or "job stress" or "occupational stress" or "work related stress" or "job related stress" or "workplace stress" or "stress at work")

S2 SU.EXACT("Occupational Stress")

S1 SU.EXACT("Workplaces") AND (SU.EXACT("Psychological Stress") OR SU.EXACT("Stress"))

## **Campbell Library**

Søketreff: 1 relevant systematisk oversikt

Søkestrategi:

Søk 1: Title: stress

Søk 2: Keywords: (work or work-related or workplace or employee\* or job or occupational or employment) and (stress or strain)

Søk 3: Title: burnout

Søk 4: Keywords: burnout

## **PubMed**

Søketreff: 35

Søkestrategi:

((("systematic review" or meta-analysis or ((randomized or randomised) and trial))) AND ((((((work(Title) OR "work-related"(Title) OR workplace(Title) OR employee\*(Title) OR job(Title) OR occupational(Title) OR employment)(Title) AND (stress(Title) OR strain)(Title)))) OR (Burnout OR "employee assistance program" OR "employee assistance programs" OR "employee distress" OR ("health promotion" AND work\*) OR "Job related stress" OR "Job stress" OR "Occupational health intervention" OR "Occupational health interventions" OR "occupational health service" OR "occupational health services" OR "occupational healthcare service" OR "occupational healthcare services" OR "Occupational stress" OR "stress at work" OR ("Stress management" AND work\*) OR ("stress reduction" AND work\*) OR "stress reduction interventions" OR "Work related stress" OR "Work related ill-health" OR

"Work related illness" OR "Work related illnesses" OR "workplace stress")))) AND  
pubstatusaheadofprint

## Vedlegg 2 - Tabeller over inkluderte studier

**Tabell 1: Oversikter over oversikter (n=3)**

Referanse	Sammenheng
Bergerman L, Corabian P, Harstall C. Effectiveness of organizational interventions for the prevention of stress in the workplace. Health Technology Assessment Database. 2009(3).	<p>Objectives: To evaluate the effectiveness of organizational-level interventions for the prevention of occupational stress in terms of reducing stress, psychological symptoms, absenteeism, presenteeism, and turnover. Results: According to the reviewed evidence, research methods in the area of occupational stress prevention have improved over the past 10 years. However, the need for more rigor remains. Six systematic reviews (SRs) assessed the effectiveness of organizational stress prevention interventions and met the inclusion criteria of this review. Three SRs focused on healthcare workers as their population of interest, whereas the remaining three included employees regardless of the industry or occupation in which they worked. In these studies there was considerable variability in how interventions were classified, the types of strategies employed, and the instruments used to measure outcomes. The following points follow from the reviewed evidence: Stress: Two interventions of good methodological quality were associated with significant reductions in employee stress. One consisted of a psychological training program with theory, role playing, and experiential exchanges, whereas the other intervention consisted of “action teams,” whereby employee representatives liaised with management and employees to improve team communication and cohesiveness, work scheduling, conflict resolution, and the recognition of good work. Burnout: Five interventions were associated with significant reductions in employee burnout, although only two received good methodological quality ratings. One consisted of an emotion-oriented care training program, including clinical lessons and supervision meetings, whereas the other, a participatory intervention, was based on “health circles,” in which small groups of employee representatives met to identify psychosocial stressors and recommend solutions. Psychological wellbeing: Seven interventions were associated with significant improvements in psychological wellbeing. Four received good methodological quality ratings. Two interventions used a participatory approach to re-</p>

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duce stress, including the creation of committees with employee representatives. The other two involved policy or procedural changes: (a) the immediate transfer of control over production to employee work groups and (b) the introduction of flexible working hours. Sickness absence and absenteeism: Seven interventions were associated with reductions in absenteeism, three of which statistical significance was reported. These three interventions also received generally high methodological quality ratings. In addition to improving psychological wellbeing, the two participatory interventions mentioned above significantly reduced absenteeism. An intervention consisting of more teamwork, more personnel, role clarification, production goals, fewer supervisors, a partial change in the shift system, and increased feedback significantly reduced sick leave. Turnover: Four interventions were associated with a reduction in employee turnover, one of which statistical significance was reported. A change to a primary care nursing model with support from managers, advice on core skills, and promotion of effective interprofessional communication reduced turnover. Conclusions: There is limited evidence that organizational-level interventions reduce stress, psychological symptoms, or absenteeism in the workplace when compared to no-intervention controls or other interventions. We have drawn no conclusions on the effectiveness of one intervention relative to another. Studies have not yet incorporated measures of presenteeism in their evaluation of stress prevention interventions.

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Bhui KS, Dinos S, Stansfeld SA, White PD. A synthesis of the evidence for managing stress at work: a review of the reviews reporting on anxiety, depression, and absenteeism. *Journal of environmental and public health*. 2012;2012:515874.

Background: Psychosocial stressors in the workplace are a cause of anxiety and depressive illnesses, suicide and family disruption. Methods: The present review synthesizes the evidence from existing systematic reviews published between 1990 and July 2011. We assessed the effectiveness of individual, organisational and mixed interventions on two outcomes: mental health and absenteeism. Results: In total, 23 systematic reviews included 499 primary studies; there were 11 meta-analyses and 12 narrative reviews. Meta-analytic studies found a greater effect size of individual interventions on individual outcomes. Organisational interventions showed mixed evidence of benefit. Organisational programmes for physical activity showed a reduction in absenteeism. The findings from the meta-analytic reviews were consistent with the findings from the narrative reviews. Specifically, cognitive-behavioural programmes produced larger effects at the individual level compared with other interventions. Some interventions

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appeared to lead to deterioration in mental health and absenteeism outcomes. Gaps in the literature include studies of organisational outcomes like absenteeism, the influence of specific occupations and size of organisations, and studies of the comparative effectiveness of primary, secondary and tertiary prevention. Conclusions: Individual interventions (like CBT) improve individuals' mental health. Physical activity as an organisational intervention reduces absenteeism. Research needs to target gaps in the evidence.

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Jacobs S, Hassell K, Johnson S. The effectiveness of organisational stress management and prevention strategies: What can community pharmacy learn from existing evidence? *International Journal of Pharmacy Practice*. 2013;21:78-9.

**Introduction:** Workplace stress is a current concern amongst community pharmacists. The response of community pharmacies to perceived increases in workplace pressures could be instrumental in ensuring that they do not adversely affect pharmacists' wellbeing or lead to an increase in dispensing errors. Yet no evidence exists of cost-effective solutions to workplace stress in community pharmacy settings. As part of a scoping study, a review of the wider organisational literature was conducted to identify effective organisational interventions for preventing or managing workplace stress. **Methods** This review did not require ethical approval. A secondary synthesis of existing reviews (1995-2010) from peer-reviewed and professional sources was conducted. Reviews were identified through existing knowledge and keyword searching of the internet and electronic databases (OVID: Medline, Cinahl, HMIC; CSA; social science databases, ABI Inform). Search terms included those relating to work stress, intervention studies, and review papers. Inclusion/exclusion criteria limited the scope of the review and guided the identification and selection of papers. Crucially, only reviews of interventions including an organisational element (i.e. targeted at the organisational level, or at the interface between the individual and organisation<sup>2</sup>) were included; reviews of interventions focused solely on the individual<sup>2</sup> were not within the scope of this study (although some included elements of individual-level interventions which are reported). A pro-forma was used to extract data including details of interventions, their effectiveness, and opportunities and barriers to implementation. Extracted data were analysed using a combination of tallies of frequency and a narrative synthesis approach. **Results** Evidence of the effectiveness of a range of organisational interventions for the prevention and management of workplace stress was identified. Individual-level interventions with the greatest volume of supporting evidence included stress

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management training, cognitive behavioural approaches and counselling. Interventions focused on the interface between the individual and organisation with the greatest volume of supporting evidence included those increasing employee participation, improving communication and involving skill training. At the organisational level, the greatest volume of evidence was found for the effectiveness of interventions modifying task or job characteristics, targeting aspects of the physical working environment and those involving changes to work scheduling (e.g. flexi-time, rest breaks, shift patterns). The most commonly identified benefits to employees were a reduction in perceived stress, increased job satisfaction and improved psychological well-being. The benefits to organisations most commonly demonstrated were reduced sickness absence, improved organisational culture/climate and increased performance/productivity. Finally, a model of best practice in organisational stress management and prevention was derived from data on opportunities and barriers to implementation. Discussion This review has synthesised existing evidence for the effectiveness of organisational interventions for preventing or managing workplace stress. Whilst none of the interventions described were conducted in a community pharmacy setting, the list of interventions generated provides a good starting point for those seeking to develop evidence-based strategies in stress management and prevention in this sector. Moreover, the derived model of best practice may be transferrable to a community pharmacy setting. The findings from the literature review were used as the basis for discussion in stakeholder interviews in the wider scoping study to explore what was already happening in community pharmacy organisations to prevent or manage workplace stress, and what else might be suitable, acceptable and/or adaptable in the community pharmacy context.

**Tabell 2: Systematisk oversikt etter yrkestype – Helsepersonell (n=8)**

Referanse	Sammendrag
Buchberger B, Heymann R, Huppertz H, Friepartner K,	Background: The increasing proportion of elderly people with respective care requirements and within the total population stands against aging personnel and staff reduction in the field of health care where employees are

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Pomrin N, Wasem J. The effectiveness of interventions in workplace health promotion as to maintain the working capacity of health care personal. *GMS Health Technol Assess.* 2011;**7**.

exposed to high load factors. Health promotion interventions may be a possibility to improve work situations and behavior. **Methods:** A systematic literature search is conducted in 32 databases limited to English and German publications since 1990. Moreover, internet-searches are performed and the reference lists of identified articles are scanned. The selection of literature was done by two reviewers independently according to inclusion and exclusion criteria. Data extraction and tables of evidence are verified by a second expert just like the assessment of risk of bias by means of the Cochrane Collaboration's tool. **Results:** We identified eleven intervention studies and two systematic reviews. There were three randomized controlled trials (RCT) and one controlled trial without randomization (CCT) on the improvement of physical health, four RCT and two CCT on the improvement of psychological health and one RCT on both. Study duration ranged from four weeks to two years and the number of participants included from 20 to 345, with a median of 56. Interventions and populations were predominantly heterogeneous. In three studies intervention for the improvement of physical health resulted in less complaints and increased strength and flexibility with statistically significant differences between groups. Regarding psychological health interventions lead to significantly decreased intake of analgesics, better stress management, coping with workload, communication skills and advanced training. **Discussion:** Taking into consideration the small to very small sample sizes, other methodological flaws like a high potential of bias and poor quality of reporting the validity of the results has to be considered as limited. Due to the heterogeneity of health interventions, study populations with differing job specializations and different lengths of study durations and follow-up periods, the comparison of results would not make sense. **Conclusions:** Further research is necessary with larger sample sizes, with a sufficient study duration and follow-up, with a lower risk of bias, by considering of relevant quality criteria and with better reporting in publications.

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Edwards D, Burnard P. A systematic review of stress and stress management interventions for mental health nurses. *Journal of*

Health care professionals in the United Kingdom (UK) appear to have higher absence and sickness rates than staff in other sectors, and stress may be a reason for nurses leaving their jobs. These problems need to be addressed, particularly in the mental health field, if current service provision is to be maintained. The aim was to identify stressors, moderators and stress outcomes (i.e. measures included those related to stress, burnout and job satisfaction) for mental health nurses, as these have clear implications for stress management strategies. A

<p>advanced nursing. 2003;42(2):169-200.</p>	<p>systematic review of research published in English between 1966 and 2000 and undertaken in the UK that specifically identified participants as mental health nurses was carried out to determine the effectiveness of stress management interventions for those working in mental health nursing. Studies from non-UK countries were examined as potential models of good practice. The study was limited to primary research papers that specifically involved mental health nurses, where the health outcomes measured were stressors, moderators and stress outcomes and where sufficient data was provided. The initial search identified 176 papers, of these 70 met the inclusion criteria. Seven studies have been reported since the completion of the review and have been included in this article. Sixty-nine focused on the stressors, moderators and stress outcomes and eight papers identified stress management techniques. Relaxation techniques, training in behavioural techniques, stress management workshops and training in therapeutic skills were effective stress management techniques for mental health nurses. Methodological flaws however, were detracted from the rigor of many of the studies. The review demonstrated that a great deal is known about the sources of stress at work, about how to measure it and about the impact on a range of outcome indicators. What was found to be lacking was a translation of these results into practice, into research that assessed the impact of interventions that attempt to moderate, minimize or eliminate some of these stressors.</p>
<p>Facey AD, Tallentire V, Selzer RM, Rotstein L. Understanding and reducing work-related psychological distress in interns: a systematic review. Internal medicine journal, 2015;45(10):995-1004</p>	<p>Objective: To collate and evaluate studies investigating either the factors influencing work-related psychological distress in postgraduate year one (PGY1) doctors, or strategies designed to reduce it. Study design: A systematic review conducted in May 2014. Data sources: Key databases (MEDLINE, PsycINFO and Embase) and manual searches of reference lists for relevant studies published in the last 15 years. Study selection: Empirical research designed to either elucidate the factors influencing work-related psychological distress in PGY1 doctors, or examine the effects of an intervention designed to reduce it. Data extraction: Key information was extracted into an electronic data extraction form which incorporated elements of Murphy's model of work stress factors. Data synthesis: Twenty-one studies were included in the review; 16 studies had examined the factors influencing work-related psychological distress, four studies had investigated strategies to reduce it and a single study addressed both. Analysis of the findings of each individual study through the conceptual framework provided by Murphy's model revealed a discrepancy between the factors influencing work-related psychological distress and</p>



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the focus of strategies designed to reduce it. Factors such as career progression and a PGY1 doctor's role within the organization were not addressed in the interventions identified. Conclusions: Significant sources of psychological distress in PGY1 doctors remain overlooked by current interventions. Strategies designed to prevent or reduce psychological distress should be broad-based and grounded in both the literature exploring salient factors and existing theories of work-related stress.

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Gillman L, Adams J, Kovac R, Kilcullen A, House A, Doyle C. Strategies to promote coping and resilience in oncology and palliative care nurses caring for adult patients with malignancy: A comprehensive systematic review. *JBIC Database of Systematic Reviews and Implementation Reports*. 2015;13(5):131-204.

**Background:** Cancer care nursing is perceived as personally and professionally demanding. Developing effective coping skills and resilience has been associated with better health and wellbeing for nurses, work longevity and improved quality of patient care. **Objectives:** The objective of this systematic review was to identify personal and organizational strategies that promote coping and resilience in oncology and palliative care nurses caring for adult patients with malignancy. **Methods:** The search strategy identified published and unpublished studies from 2007 to 2013. Individual search strategies were developed for the 12 databases accessed and search alerts established. The review considered qualitative, quantitative and mixed methods studies that assessed personal or organizational interventions, programs or strategies that promoted coping and resilience. These included studies employing clinical supervision, staff retreats, psycho-educational programs, compassion fatigue resilience programs, stress inoculation therapy and individual approaches that reduced the emotional impact of cancer care work. The outcomes of interest were the experience of factors that influence an individual's coping and resilience and outcomes of validated measures of coping or resilience. Methodological quality of studies was independently assessed by two reviewers prior to inclusion in the review using standardized critical appraisal instruments developed by the Joanna Briggs Institute. Standardized Joanna Briggs Institute tools were also used to extract data. Agreement on the synthesis of the findings from qualitative studies was reached through discussion. The results of quantitative studies could not be statistically pooled given the different study designs, interventions and outcome measures. These studies were presented in narrative form. **Results:** Twenty studies were included in the review. Ten studies examined the experience of nurse's caring for the dying, the emotional impact of palliative care and oncology work and strategies to prevent burnout or avoid compassion fatigue, challenges in self-care, and processes nurses adopted to cope with work related stress. Six studies evaluated different interventions provided by organizations to improve coping and resilience. Evidence for the effectiveness of

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interventions was limited to three studies. The results are discussed under four headings: (i) preventative measures (ii) control measures (iii) unburdening and "letting go", and (iv) growing and thriving. Conclusion: This review identified a number of strategies to better prepare nurses for practice and maintain their psychological wellbeing. Although no firm conclusions can be drawn in respect to the most effective interventions, strategies with merit included those that: a) foster connections within the team; b) provide education and training to develop behaviors that assist in controlling or limiting the intensity of stress, or aiding recovery; and c) assist in processing emotion and learning from experiences. Although individuals must take responsibility for developing personal strategies to assist coping and resilience, organizational support is integral to equipping individuals to deal with work related challenges.

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McCray LW, Cronholm PF, Bogner HR, Gallo JJ, Neill RA. Resident physician burnout: is there hope? Family medicine. 2008;40(9):626-32.

**Background:** Prevalent among resident physicians, burnout has been associated with absenteeism, low job satisfaction, and medical errors. Little is known about the number and quality of interventions used to combat burnout. **Methods:** We performed a systematic review of the literature using MEDLINE and PubMed databases. We included English-language articles published between 1966 and 2007 identified using combinations of the following medical subject heading terms: burnout, intervention studies, program evaluation, internship and residency, graduate medical education, medical student, health personnel, physician, resident physician, resident work hours, and work hour limitations. Additional articles were also identified from the reference lists of manuscripts. The quality of research was graded with the Strength of Evidence Taxonomy (SORT) from highest (level A) to lowest (level C). **Results:** Out of 190 identified articles, 129 were reviewed. Nine studies met inclusion criteria, only two of which were randomized, controlled trials. Interventions included workshops, a resident assistance program, a self-care intervention, support groups, didactic sessions, or stress-management/coping training either alone or in various combinations. None of the studied interventions achieved an A-level SORT rating. **Conclusions:** Despite the potentially serious personal and professional consequences of burnout, few interventions exist to combat this problem. Prospective, controlled studies are needed to examine the effect of interventions to manage burnout among resident physicians.

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Ruotsalainen JH, Verbeek JH, Marine A, Serra C. Preventing occupational stress in healthcare workers. Cochrane Database of Systematic Reviews. 2014;12:CD002892.

**Background:** Healthcare workers can suffer from occupational stress as a result of lack of skills, organisational factors, and low social support at work which may lead to distress, burnout and psychosomatic problems, and deterioration in quality of life and service provision. **Objectives:** To evaluate the effectiveness of work- and person-directed interventions compared to no intervention or alternative interventions in preventing stress at work in healthcare workers. **Search methods:** We searched the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, PsycINFO, CINAHL, NIOSHTIC-2 and Web of Science up to November 2013. **SELECTION CRITERIA:** Randomised controlled trials (RCTs) of interventions aimed at preventing psychological stress in healthcare workers. For organisational interventions, interrupted time-series and controlled before-and-after (CBA) studies were also eligible. **Data collection and analysis:** Two review authors independently extracted data and assessed trial quality. We used Standardised Mean Differences (SMDs) where authors of trials used different scales to measure stress or burnout. We combined studies that were similar in meta-analyses. We used the GRADE system to rate the quality of the evidence. **Main results:** In this update, we added 39 studies, making a total of 58 studies (54 RCTs and four CBA studies), with 7188 participants. We categorised interventions as cognitive-behavioural training (CBT) (n = 14), mental and physical relaxation (n = 21), combined CBT and relaxation (n = 6) and organisational interventions (n = 20). Follow-up was less than one month in 24 studies, one to six in 22 studies and more than six months in 12 studies. We categorised outcomes as stress, anxiety or general health. There was low-quality evidence that CBT with or without relaxation was no more effective in reducing stress symptoms than no intervention at one month follow-up in six studies (SMD -0.27 (95% Confidence Interval (CI) -0.66 to 0.13; 332 participants). But at one to six months follow-up in seven studies (SMD -0.38, 95% CI -0.59 to -0.16; 549 participants, 13% relative risk reduction), and at more than six months follow-up in two studies (SMD -1.04, 95% CI -1.37 to -0.70; 157 participants) CBT with or without relaxation reduced stress more than no intervention. CBT interventions did not lead to a considerably greater effect than an alternative intervention, in three studies. Physical relaxation (e.g. massage) was more effective in reducing stress than no intervention at one month follow-up in four studies (SMD -0.48, 95% CI -0.89 to -0.08; 97 participants) and at one to six months follow-up in six studies (SMD -0.47; 95% CI -0.70 to -0.24; 316 participants). Two studies did not find a considerable difference in stress between massage and taking extra breaks. Mental relaxation (e.g. meditation) led to similar stress symptom levels as no intervention at one to six months follow-up in six studies (SMD -0.50, 95% CI -1.15 to 0.15; 205 participants) but to less stress in one study at more than

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six months follow-up. One study showed that mental relaxation reduced stress more effectively than attending a course on theory analysis and another that it was more effective than just relaxing in a chair. Organisational interventions consisted of changes in working conditions, organising support, changing care, increasing communication skills and changing work schedules. Changing work schedules (from continuous to having weekend breaks and from a four-week to a two-week schedule) reduced stress with SMD  $-0.55$  (95% CI  $-0.84$  to  $-0.25$ ; 2 trials, 180 participants). Other organisational interventions were not more effective than no intervention or an alternative intervention. We graded the quality of the evidence for all but one comparison as low. For CBT this was due to the possibility of publication bias, and for the other comparisons to a lack of precision and risk of bias. Only for relaxation versus no intervention was the evidence of moderate quality. Authors' conclusions: There is low-quality evidence that CBT and mental and physical relaxation reduce stress more than no intervention but not more than alternative interventions. There is also low-quality evidence that changing work schedules may lead to a reduction of stress. Other organisational interventions have no effect on stress levels. More randomised controlled trials are needed with at least 120 participants that compare the intervention to a placebo-like intervention. Organisational interventions need better focus on reduction of specific stressors.

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Stewart W, Terry L.  
Reducing burnout in nurses and care workers in secure settings. *Nurs Stand.* 2014;28(34):37-45.

**Aim:** To identify which educational interventions reduce burnout and promote wellbeing in nurses and care workers in secure settings. **Method:** A systematic review of health, educational and criminal justice literature was undertaken to appraise relevant studies and identify educational interventions that were effective in reducing burnout. **Findings:** There is some evidence that clinical supervision and psychological intervention training are successful in reducing burnout in nurses and care workers in secure settings. **Conclusion:** Supportive relationships can help nurses to manage emotional stress, and continuing personal and professional development can reduce burnout in qualified nurses in secure settings.

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Van Mol M, Kompanje EJ, Benoit D, Bakker J, Nijkamp M. The Prevalence of Compassion Fatigue and

**Background:** Working in the stressful environment of the Intensive Care Unit (ICU) is an emotionally charged challenge that might affect the emotional stability of medical staff. The quality of care for ICU patients and their relatives might be threatened through long-term absenteeism or a brain and skill drain if the healthcare professionals leave their jobs prematurely in order to preserve their own health. **Purpose:** The purpose of this review is

Burnout among Healthcare Professionals in Intensive Care Units: A Systematic Review. PLoS One. 2015;10(8):e0136955.

to evaluate the literature related to emotional distress among healthcare professionals in the ICU, with an emphasis on the prevalence of burnout and compassion fatigue and the available preventive strategies. Methods: A systematic literature review was conducted, using Embase, Medline OvidSP, Cinahl, Web-of-science, Psych-INFO, PubMed publisher, Cochrane and Google Scholar for articles published between 1992 and June, 2014. Studies reporting the prevalence of burnout, compassion fatigue, secondary traumatic stress and vicarious trauma in ICU healthcare professionals were included, as well as related intervention studies. Results: Forty of the 1623 identified publications, which included 14,770 respondents, met the selection criteria. Two studies reported the prevalence of compassion fatigue as 7.3% and 40%; five studies described the prevalence of secondary traumatic stress ranging from 0% to 38.5%. The reported prevalence of burnout in the ICU varied from 0% to 70.1%. A wide range of intervention strategies emerged from the recent literature search, such as different intensivist work schedules, educational programs on coping with emotional distress, improving communication skills, and relaxation methods. Conclusions: The true prevalence of burnout, compassion fatigue, secondary traumatic stress and vicarious trauma in ICU healthcare professionals remains open for discussion. A thorough exploration of emotional distress in relation to communication skills, ethical rounds, and mindfulness might provide an appropriate starting point for the development of further preventive strategies.

**Tabell 3: Systematiske oversikter etter yrkestype - Andre (n=3)**

<b>Referanse</b>	<b>Sammendrag</b>
Hannigan B, Edwards D, Burnard P. Stress and stress management in clinical psychology: Findings from a systematic review. Journal of	Background: Occupational stress is a major problem for individuals and organizations. Stress can cause burnout, ill-health, high workforce turnover, absenteeism, lowered morale and reduced efficiency and performance. Aims: To identify factors that contribute to stress, burnout and job satisfaction for qualified UK clinical psychologists; to identify the various coping strategies that are employed; to identify stress management interventions that have been used by members of the clinical psychology profession in the UK. Method: Systematic

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Mental Health.

2004;13(3):235-45.

review, focusing on stressors, moderators and stress management interventions. Results: Seven studies were included in the review. Just one reported an evaluation of a stress management intervention. Reported sources of stress for clinical psychologists included client characteristics, excessive workloads, professional self-doubt and poor management. Coping strategies included talking with colleagues, and other "active" approaches to personal stress management. Up to 40% of UK clinical psychologists participating in studies were found to be experiencing "caseness" levels of distress. Conclusions: Mental health work is stress-provoking. However, organizational and professional factors may militate against psychologists seeking and receiving support at work.

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Patterson GT, Chung IW, Swan PW. Stress management interventions for police officers and recruits: A meta-analysis. *Journal of Experimental Criminology*. 2014;10(4):487-513.

Objective: A systematic review was conducted to examine the effects of stress management interventions on outcomes among police officers and recruits. Methods: The search methods included searching electronic databases, journals, books, conference proceedings, websites and contacting organizations and authors. Inclusion criteria were randomized controlled trials and quasi-experimental studies, and any type of stress management intervention given to police officers, recruits or civilian law enforcement personnel. Results: The 12 primary studies included in the systematic review were published between 1984 and 2008 and included 8 published studies, 3 unpublished doctoral dissertations, and 1 unpublished report. The sample was comprised of 906 participants, with an average age of 34.48 years, and an average of 10.77 years of police experience. The average duration of the interventions was 10.95 h with a range of 30 min to 24 h. A total of 221 effects were examined in a meta-analysis. Effect sizes were calculated separately for physiological, psychological and behavioral outcomes. The overall mean effect for physiological outcomes was 0.196, 0.038 among psychological outcomes, and -0.176 among behavioral outcomes. These small effect sizes suggest that the interventions were not effective. Moderator analyses results did not show any meaningful differences across the studies. Conclusions: Further research is needed to develop and implement effective stress management interventions intended for police officers and recruits that address specific field work, organizational and personal stressors, utilize randomized controlled trials, and indicate the primary, secondary or tertiary focus of the intervention.

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Penalba V, McGuire H, Leite JR. Psychosocial interventions for prevention of psychological disorders in law enforcement officers. Cochrane Database of Systematic Reviews. 2008(3):CD005601.

**Background:** Psychosocial interventions are widely used for the prevention of psychological disorders in law enforcement officers. **Objectives:** To assess the effectiveness and comparative effectiveness of psychosocial interventions for the prevention of psychological disorders in law enforcement officers. **Search strategy:** CCDANCTR-References was searched on 12/5/2008, electronic databases were searched, reference lists of review articles and included studies were checked, a specialist journal was hand searched, specialist books were checked and we contacted experts and trial lists. **Selection criteria:** Randomised and quasi randomised controlled trials were eligible. The types of participants were people employed directly in law enforcement, including police officers and military police, regardless of gender, age and country of origin, and whether or not they had experienced some psychological trauma. All types of psychosocial intervention were eligible. The relevant outcome measures were psychological symptoms, adverse events and acceptability of interventions. **Data collection and analysis:** Data was entered into Review Manager 4.2 for analysis, but this review was converted to RevMan 5.0 for publication. Quality assessments were performed. Two authors independently selected studies, extracted data and assessed the quality of studies. Summary effects were to be calculated using RevMan but no meta-analyses were possible. For individual studies, dichotomous outcome data are presented using relative risk, and continuous outcome data are presented using the weighted mean difference. These results are given with their 95% confidence intervals (CI). **Main results:** Ten studies were included in the review but only five reported data that could be used. Three of the ten studies were related to exercise-based psychological interventions. Seven were related to psychological interventions. No meta-analyses were possible due to diversity of participants, interventions and outcomes. Two studies compared a psychosocial intervention versus another intervention. Three studies compared a psychosocial intervention to a control group. Only one primary prevention trial reported data for the primary outcomes and, although this study found a significant difference in depression in favor of the intervention at endpoint, this difference was no longer evident at 18 months. No studies of primary prevention comparing different interventions and reporting primary outcomes of interest were identified. The methodological quality of the included studies was summarised. No study met our full quality criteria and one was regarded as low-quality. The remainder could not be rated because of incomplete data in the published reports and inadequate responses from the trial lists. **Authors' conclusions:** There is evidence only from individual small and low quality trials with minimal data suggesting that police officers benefit from psychosocial interventions, in terms of physical symptoms and psychological symptoms

such as anxiety, depression, sleep problems, cynicism, anger, PTSD, marital problems and distress. No data on adverse effects were available. Meta-analyses of the available data were not possible. Further well-designed trials of psychosocial interventions are required. Research is needed on organization-based interventions to enhance psychological health among police officers.

**Tabell 4: Systematiske oversikter etter yrkestype - Ikke spesifisert (n=11)**

Referanse	Sammendrag
<p>Cancelliere C, Cassidy JD, Ammendolia C, Côté P. Are workplace health promotion programs effective at improving presenteeism in workers? A systematic review and best evidence synthesis of the literature. BMC Public Health. 2011;11:395.</p>	<p>Background: Presenteeism is highly prevalent and costly to employers. It is defined as being present at work, but limited in some aspect of job performance by a health problem. Workplace health promotion (WHP) is a common strategy used to enhance on-the-job productivity. The primary objective is to determine if WHP programs are effective in improving presenteeism. The secondary objectives are to identify characteristics of successful programs and potential risk factors for presenteeism. Methods: The Cochrane Library, Medline, and other electronic databases were searched from 1990 to 2010. Reference lists were examined, key journals were hand-searched and experts were contacted. Included studies were original research that contained data on at least 20 participants (&gt; 18 years of age), and examined the impacts of WHP programs implemented at the workplace. The Effective Public Health Practice Project Tool for Quantitative Studies was used to rate studies. 'Strong' and 'moderate' studies were abstracted into evidence tables, and a best evidence synthesis was performed. Interventions were deemed successful if they improved the outcome of interest. Their program components were identified, as were possible risk factors contributing to presenteeism. Results: After 2,032 titles and abstracts were screened, 47 articles were reviewed, and 14 were accepted (4 strong and 10 moderate studies). These studies contained preliminary evidence for a positive effect of some WHP programs. Successful programs offered organizational leadership, health risk screening, individually tailored programs, and a supportive workplace culture. Potential risk factors contributing to presenteeism included being overweight, a</p>



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poor diet, a lack of exercise, high stress, and poor relations with co-workers and management. Limitations: This review is limited to English publications. A large number of reviewed studies (70%) were inadmissible due to issues of bias, thus limiting the amount of primary evidence. The uncertainties surrounding presenteeism measurement is of significant concern as a source of bias. Conclusions: The presenteeism literature is young and heterogeneous. There is preliminary evidence that some WHP programs can positively affect presenteeism and that certain risk factors are of importance. Future research would benefit from standard presenteeism metrics and studies conducted across a broad range of workplace settings.

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Joyce K, Pabayo R, Critchley JA, Bamba C. Flexible working conditions and their effects on employee health and wellbeing. Cochrane Database of Systematic Reviews. 2010(2):CD008009.

Background: Flexible working conditions are increasingly popular in developed countries but the effects on employee health and wellbeing are largely unknown. Objectives: To evaluate the effects (benefits and harms) of flexible working interventions on the physical, mental and general health and wellbeing of employees and their families. Search strategy: Our searches (July 2009) covered 12 databases including the Cochrane Public Health Group Specialised Register, CENTRAL; MEDLINE; EMBASE; CINAHL; PsycINFO; Social Science Citation Index; ASSIA; IBSS; Sociological Abstracts; and ABI/Inform. We also searched relevant websites, handsearched key journals, searched bibliographies and contacted study authors and key experts. Selection criteria: Randomised controlled trials (RCT), interrupted time series and controlled before and after studies (CBA), which examined the effects of flexible working interventions on employee health and wellbeing. We excluded studies assessing outcomes for less than six months and extracted outcomes relating to physical, mental and general health/ill health measured using a validated instrument. We also extracted secondary outcomes (including sickness absence, health service usage, behavioural changes, accidents, work-life balance, quality of life, health and wellbeing of children, family members and co-workers) if reported alongside at least one primary outcome. Data collection and analysis: Two experienced review authors conducted data extraction and quality appraisal. We undertook a narrative synthesis as there was substantial heterogeneity between studies. Main results: Ten studies fulfilled the inclusion criteria. Six CBA studies reported on interventions relating to temporal flexibility: self-scheduling of shift work (n = 4), flextime (n = 1) and overtime (n = 1). The remaining four CBA studies evaluated a form of contractual flexibility: partial/gradual retirement (n = 2), in-

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voluntary part-time work (n = 1) and fixed-term contract (n = 1). The studies retrieved had a number of methodological limitations including short follow-up periods, risk of selection bias and reliance on largely self-reported outcome data. Four CBA studies on self-scheduling of shifts and one CBA study on gradual/partial retirement reported statistically significant improvements in either primary outcomes (including systolic blood pressure and heart rate; tiredness; mental health, sleep duration, sleep quality and alertness; self-rated health status) or secondary health outcomes (co-workers social support and sense of community) and no ill health effects were reported. Flexitime was shown not to have significant effects on self-reported physiological and psychological health outcomes. Similarly, when comparing individuals working overtime with those who did not the odds of ill health effects were not significantly higher in the intervention group at follow up. The effects of contractual flexibility on self-reported health (with the exception of gradual/partial retirement, which when controlled by employees improved health outcomes) were either equivocal or negative. No studies differentiated results by socio-economic status, although one study did compare findings by gender but found no differential effect on self-reported health outcomes. Authors' conclusions: The findings of this review tentatively suggest that flexible working interventions that increase worker control and choice (such as self-scheduling or gradual/partial retirement) are likely to have a positive effect on health outcomes. In contrast, interventions that were motivated or dictated by organisational interests, such as fixed-term contract and involuntary part-time employment, found equivocal or negative health effects. Given the partial and methodologically limited evidence base these findings should be interpreted with caution. Moreover, there is a clear need for well-designed intervention studies to delineate the impact of flexible working conditions on health, wellbeing and health inequalities.

Kim JH. A meta-analysis of effects of job stress management interventions (SMIs). Taehan Kanho Hakhoe Chi. 2007;37(4):529-39.

Purpose: This quantitative meta-analysis sought to determine the effectiveness of SMIs. Method: Forty-six experimental studies with a randomized or nonequivalent control group pre-posttest design were included in the analysis. The selected studies were classified according to the sample characteristics, the types and methods of the interventions, and the types of outcome variables. Six intervention types were distinguished: cognitive-behavioral intervention (CBT), relaxation techniques (RT), exercise (EX), multimodal programs 1 and 2 (MT1, 2), and organization focused interventions (OTs). Effect sizes were calculated for the 4 outcome categories

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across intervention types: psycho-social outcome, behavioral-personal resources, physiologic, and organizational outcome. Results: Individual worker-focused interventions (ITs) were more effective than OTs. A small but significant overall effect was found. A moderate effect was found for RT, and small effects were found for other ITs. The effect size for OTs was the smallest. The interventions involving CBT and RT appeared to be the preferred means of reducing worker's psycho-social and organizational outcomes. With regard to physiologic outcomes, RT appeared to be most effective. CBT appeared to be most effective in reducing psycho-social outcomes. The effects of OT were non-significant, except for the psycho-social outcomes. Conclusions: SMIs are effective. Interventions involving RT and CBT are more effective than other types.

Kuoppala J, Lamminpaa A, Husman P. Work health promotion, job well-being, and sickness absences - A systematic review and meta-analysis. *Journal of Occupational and Environmental Medicine*. 2008;50(11):1216-27.

Objective: The aim of this systematic literature analysis was to study the association between work health promotion and job well-being, work ability, absenteeism, and early retirement. This systematic review is a part of a large research project studying multiple workplace factors and interventions that may affect workers' health and well-being. Methods: Original articles published in 1970 to 2005 were searched in Medline and PsycINFO databases, the main search terms being health promotion, well-being, work ability, sick leave, and disability pension. Out of 1312 references and 35 potentially eligible publications, 10 studies were included in the analysis. Other sources producing 36 eligible studies, 46 studies in total were included in the analysis. Results: There is moderate evidence that work health promotion decreases sickness absences (risk ratio (RR), 0.78; range, 0.10 to 1.57) and work ability (RR, 1.38; range, 1.15 to 1.66). It also seems to increase mental well-being (RR, 1.39; range, 0.98 to 1.91), but not physical well-being. There is no evidence on disability pension. Exercise seems to increase overall well-being (RR, 1.25; range, 1.05 to 1.47) and work ability (RR, 1.38; range, 1.15 to 1.66), but education and psychological methods do not seem to affect well-being or sickness absences. Sickness absences seem to be reduced by activities promoting healthy lifestyle (RR, 0.80; range, 0.74 to 0.93) and ergonomics (RR, 0.72; range, 0.13 to 1.57). Conclusions: Work health promotion is valuable on employees' well-being and work ability and productive in terms of less sickness absences. Activities involving exercise, lifestyle, and ergonomics are potentially effective. On the other hand, education and psychological means applied alone do not seem effective. Work health promotion should target both physical and psychosocial environments at work.

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<p>McLeod J. The effectiveness of workplace counselling: A systematic review. <i>Counselling &amp; Psychotherapy Research</i>. 2010;10(4):238-48.</p>	<p><b>Background:</b> In response to the stresses of the contemporary workplace, the challenges of maintaining satisfactory work-life balance, and the costs to business of employee mental health problems, many organisations have contracted to make counselling services available to their staff. It is essential to evaluate the effectiveness of workplace counselling, in order to maintain standards, and to identify examples of good practice. <b>Objectives:</b> This paper presents a comprehensive, systematic review of the effectiveness of workplace counselling. Findings are analysed in terms of client satisfaction, psychological functioning, the meaning of work, work behaviour, and negative outcomes. <b>Findings:</b> Taken as a whole, the results of research suggest that counselling is generally effective in alleviating psychological problems, has a significant impact on sickness absence, and has a moderate effect on attitudes to work. <b>Discussion:</b> Methodological issues are discussed, and it is recommended that more high-quality research is required in order to reinforce the evidence base for workplace counselling in relation to a number of key questions.</p>
<p>Montano D, Hoven H, Siegrist J. A meta-analysis of health effects of randomized controlled worksite interventions: does social stratification matter? <i>Scandinavian journal of work, environment &amp; health</i>. 2014;40(3):230-4.</p>	<p><b>Objectives:</b> The aim of this review was to assess what types of socioeconomic positions (SEP) are being considered in randomized controlled intervention studies and estimate the moderation of SEP in workplace intervention effects on body mass index (BMI), fruit and vegetable consumption, musculoskeletal symptoms, and job stress. <b>Methods:</b> A meta-analysis of randomized controlled workplace interventions was undertaken. Studies were classified by participants' SEP. The overall standardized mean difference (SMD) for each outcome was estimated with random-effects models. Additionally, a random-effects model with SEP as moderating variable was calculated in order to assess intervention effect modification (EM). <b>Results:</b> This review covers 36 studies. Altogether 40 reports of intervention effects were considered. The overall mean differences in the models, without SEP as moderating variable, were significant for all outcomes. BMI, self-reported musculoskeletal symptoms, and self-reported job stress decreased (SMD -0.16, 95% confidence interval (95% CI) -0.29- -0.02, SMD -0.32, 95% CI -0.51- -0.14, and SMD -0.37, 95% CI -0.71- -0.04, respectively), whereas daily consumption of fruit and vegetables increased (SMD 0.12, 95% CI 0.01-0.22). There were no statistically significant differences between occupational classes for the health outcomes considered (SMD -0.102, 95% CI -0.264-0.060, EM -0.141, 95% CI -0.406-0.125; SMD 0.117, 95% CI -0.049-0.282, EM 0.000, 95% CI -0.230-0.231; SMD -</p>

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0.301, 95% CI -0.494- -0.107, EM -0.369, 95% CI -1.169-0.430; and SMD -0.200, 95% CI -0.524-0.124, EM -0.598, 95% CI -1.208-0.012, respectively). Conclusions: Workplace interventions can achieve small positive effects on major health outcomes. We could not confirm whether these effects are moderated by occupational class.

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Narváez S, Tobar AM, López DM. Systematic Review of Interventions Supported by ICT for the Prevention Treatment of Occupational Stress. *Studies in health technology and informatics*. 2014;200:71-80.

**Problem:** Stress-related disorders have become one of the main problems of public health in many countries and of worldwide organizations, and they are expected to become more common in the forthcoming decades. **Objective:** This article aims at providing a systematic review and a descriptive evaluation of the interventions supported by ICT for the prevention and treatment of occupational stress. **Methods:** A systematic review of five databases (EBSCO, The Cochrane Library, PubMed, ScienceDirect and IEEEExplorer) was carried out. **Results:** This article provides a quantitative and qualitative description of 21 studies about occupational stress interventions supported by ICT. The following factors were considered for the analysis: impact of the intervention, design of the study, type of intervention, purpose of the intervention, type of instrument for the measurement of occupational stress, and type of ICT used. **Conclusions:** The systematic review demonstrated that interventions supported by ICT for the prevention and treatment of occupational stress are scarce but effective.

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Ost LG. The efficacy of Acceptance and Commitment Therapy: an updated systematic review and meta-analysis. *Behaviour research and therapy*. 2014;61:105-21.

Acceptance and Commitment therapy (ACT) has attracted a lot of interest during the last 10-15 years with a strong increase of the number of randomized controlled trials (RCTs). The present review and meta-analysis includes 60 RCTs (4234 participants) on psychiatric disorders, somatic disorders, and stress at work. The mean effect size across all comparisons was small (0.42). Compared to the Öst (2008) meta-analysis there was no significant improvement in methodological quality and deterioration in effect size (from 0.68). When ACT was compared to various forms of cognitive or behavioral treatments a small and non-significant effect size of 0.16 was obtained. An evidence-base evaluation showed that ACT is not yet well-established for any disorder. It is probably efficacious for chronic pain and tinnitus, possibly efficacious for depression, psychotic symptoms, OCD, mixed anxiety, drug abuse, and stress at work, and experimental for the remaining disorders.

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Rongen A, Robroek SJ, van Lenthe FJ, Burdorf A. Workplace health promotion: a meta-analysis of effectiveness. *American journal of preventive medicine*. 2013;44(4):406-15.

**Context:** An unhealthy lifestyle may contribute to ill health, absence due to sickness, productivity loss at work, and reduced ability to work. Workplace health promotion programs (WHPPs) aim to improve lifestyle and consequently improve health, work ability, and work productivity. However, systematic reviews on intervention studies have reported small effects, and the overall evaluation of effectiveness of WHPPs is hampered by a large heterogeneity in interventions and study populations. This systematic review aims to investigate the influence of population, study and intervention characteristics, and study quality on the effectiveness of workplace health promotion programs. **Evidence acquisition:** A systematic literature search was conducted identifying RCTs, published before June 2012, evaluating the effect of a WHPP aimed at smoking cessation, physical activity, healthy nutrition, and/or obesity on self-perceived health, work absence due to sickness, work productivity, or work ability. Studies were included in the meta-analyses if quantitative information was presented to calculate an effect size (ES). A meta-analysis, stratified meta-analyses, and meta-regression analyses were performed in Spring 2012 using Comprehensive Meta-analysis software 2.0 and PAWS 17.0.2. **Evidence synthesis:** In 18 studies describing 21 interventions, the overall effect of a WHPP was small (ES=0.24, 95% CI=0.14, 0.34). The effectiveness of a WHPP was larger in younger populations, in interventions with weekly contacts, and in studies in which the control group received no health promotion. A 2.6-fold lower effectiveness was observed for studies performing an intention-to-treat analysis and a 1.7-fold lower effectiveness for studies controlling for confounders. Studies of poor methodological quality reported a 2.9-fold higher effect size of the WHPP. **Conclusions:** The effectiveness of a WHPP is partly determined by intervention characteristics and statistical analysis. High-quality RCTs reported lower effect sizes. It is important to determine the effectiveness of WHPPs in RCTs of high quality.

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van der Klink JJ, Blonk RW, Schene AH, van Dijk FJ. The benefits of interventions for work-related stress. *American journal of public health*. 2001;91(2):270-6.

**Objectives:** This quantitative meta-analysis sought to determine the effectiveness of occupational stress-reducing interventions and the populations for which such interventions are most beneficial. **Methods:** Forty-eight experimental studies (n = 3736) were included in the analysis. Four intervention types were distinguished: cognitive-behavioral interventions, relaxation techniques, multimodal programs, and organization-focused interventions. **Results:** A small but significant overall effect was found. A moderate effect was found for cogni-

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tive-behavioral interventions and multimodal interventions, and a small effect was found for relaxation techniques. The effect size for organization-focused interventions was no significant. Effects were most pronounced on the following outcome categories: complaints, psychological resources and responses, and perceived quality of work life. Conclusions: Stress management interventions are effective. Cognitive-behavioral interventions are more effective than the other intervention types.

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Virgili M. Mindfulness-based interventions reduce psychological distress in working adults: A meta-analysis of intervention studies. *Mindfulness*. 2015;6(2):326-37.

The aim of this study was to assess the effectiveness of mindfulness-based interventions (MBIs) for reducing psychological distress in working adults. A comprehensive literature search of relevant databases included articles written in English published on December 2012. The meta-analysis included 19 controlled and uncontrolled intervention studies with a total of 1,139 participants. Analyses yielded medium-to-large mean effect sizes for the within-group (pre-post) comparison (Hedges's  $g = 0.68$ , 95 % confidence interval (CI) (0.58, 0.78)) and for the between-group (Hedges's  $g = 0.68$ , 95 % CI (0.48, 0.88)) comparison of MBI with an inactive control. Effectiveness was largely maintained at a median follow-up of 5 weeks (Hedges's  $g = 0.60$ , 95 % CI (0.46, 0.75)). Analyses based on subgroup comparisons suggested that brief versions of mindfulness-based stress reduction developed for organisational settings are equally effective as standard 8-week versions originally developed for clinical settings. However, there is little evidence to suggest that MBIs are more effective than other types of occupational stress management interventions, such as relaxation training and yoga, for reducing psychological distress in working adults. Overall, these findings support the use of MBIs in organisational settings for the reduction of psychological distress. Implications for practice and research are discussed.

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**Tabell 5: RCTer sortert etter behandlingstype – Psykoedukativ (n=14)**

Referanse	Sammendrag
<p>Barbosa A, Nolan M, Sousa L, Figueiredo D. Supporting direct care workers in dementia care: effects of a psychoeducational intervention. <i>Am J Alzheimers Dis Other Demen.</i> 2015;30(2):130-8.</p>	<p>An experimental study using a pre-posttest control group design was conducted to assess the effects of a person-centered care-based psychoeducational intervention on direct care workers' stress, burnout, and job satisfaction. The intervention aimed to develop person-centered care competences and tools for stress management. Four aged care facilities were randomly assigned to a psychoeducational or an education-only intervention (control). Data were collected from 56 direct care workers (female, mean age 44.72 +/- 9.02) through measurements of burnout (Maslach Burnout Inventory), job satisfaction (Minnesota Satisfaction Questionnaire-short form), and stress (Perceived Stress Scale) and focus-group interviews. Results showed significant positive effects in emotional exhaustion (<math>P = .029</math>) and positive but no significant effects in stress and job satisfaction. According to qualitative data, the experimental group perceived enhanced group cohesion, emotional management, and self-care awareness. Psychoeducational interventions may contribute to reduce direct care workers' burnout. Further work is needed to determine the extent of its benefits.</p>
<p>Delvaux N, Razavi D, Marchal S, Brédart A, Farvacques C, Slachmuylder JL. Effects of a 105 hours psychological training program on attitudes, communication skills and occupational stress in oncology: a randomised study. <i>Br J Cancer.</i> 2004;90(1):106-14.</p>	<p>The present study was designed to assess the impact of a PTP on HCP stress, attitudes and CS, and on HCP and patients' satisfaction with HCP communication skills in a randomised study. A total of 115 oncology nurses were randomly assigned to a 105-h PTP or to a waiting list. Stress was assessed with the Nursing Stress Scale, attitudes with a Semantic Differential Questionnaire, CS used during one simulated and one actual patient interview with the Cancer Research Campaign Workshop Evaluation Manual, and satisfaction with the nurses' CS with a questionnaire completed by the patients and the nurses. Trained (TG) and control (CG) groups were compared at baseline, after 3 months (just following training for TG) and after 6 months (3 months after the end of training for TG). Compared to controls, trained nurses reported positive changes on their stress levels (<math>P &lt; / = 0.05</math>) and on their attitudes (<math>P &lt; / = 0.05</math>). Positive training effects were found on CS used during the simulated interview: a significant increase in facilitative behaviours (open questions: <math>P &lt; / = 0.001</math>; evaluative functions: <math>P &lt; / = 0.05</math>) and a significant decrease in inhibitory behaviours (inappropriate information: <math>P &lt; / = 0.01</math>;</p>



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false reassurance:  $P < / = 0.05$ ). Less positive training effects were found regarding interviews with a cancer patient: a significant increase in educated guesses ( $P < / = 0.001$ ) was noticed. No training effect was observed on nurses' satisfaction levels, but a positive training effect was found on patients' satisfaction levels ( $P < / = 0.01$ ). Although results outline PTP efficacy, they indicate the need to design PTP, amplifying the transfer of learned CS to clinical practice.

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Ewers P, Bradshaw T, McGovern J, Ewers, B. Does training in psychosocial interventions reduce burnout rates in forensic nurses? *J Adv Nurs* 2002;37(5):470-6

**Aim:** To evaluate the effect of Psychosocial Intervention Training (PSI) on the knowledge, attitudes and levels of clinical burnout in a group of forensic mental health nurses. **Design:** Baseline assessments of knowledge, attitude and burnout were completed by asking a group of 33 nurses working in a medium secure psychiatric unit to complete questionnaires. Twenty of the nurses volunteered to be included in a PSI training course and were randomly allocated either to receive the training or to a waiting list control group. The duration of the training was 6 months and on completion subjects in the experimental and control group completed the questionnaires again. **Results:** Staff in the experimental group showed significant improvements in their knowledge and attitudes about serious mental illness and a significant decrease in burnout rates, whilst staff in the control group showed a small but no significant improvement in knowledge and attitudes, and increase in burnout. **Conclusion:** The findings suggest that providing forensic mental health nurses with a better understanding of serious mental illness and training them in a broader range of interventions, helps them to be more positive in their attitudes towards the clients that they work with and experience less negative effects of stress resulting from their caring role. The implications of this study for clinical practice and future research will be discussed.

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Feicht T, Wittmann M, Jose G, Mock A, von Hirschhausen E, Esch T. Evaluation of a seven-week web-based happiness training to improve psychological well-being, reduce

**Objective.** We examined the impact of a web-based happiness training on psychological and physiological parameters, by self-report and objective means, in an occupational health setting. **Methods.** Randomized controlled trial with 147 employees. Participants were divided into intervention (happiness training) and control groups (waiting list). The intervention consisted of a seven-week online training. Questionnaires were administered before, after, and four weeks after training. The following scales were included: VAS (happiness and satisfaction), WHO-5 Well-being Index, Stress Warning Signals, Freiburg Mindfulness Inventory, Recovery

stress, and enhance mindfulness and flourishing: a randomized controlled occupational health study. *Evidence-Based Complementary and Alternative Medicine*. 2013;676953.

Experience Questionnaire, and Flourishing Scale. Subgroup samples for saliva cortisol and alpha-amylase determinations were taken, indicating stress, and Attention Network Testing for effects on attention regulation. Results. Happiness ( $P = 0.000$ ;  $d = 0.93$ ), satisfaction ( $P = 0.000$ ;  $d = 1.17$ ), and quality of life ( $P = 0.000$ ;  $d = 1.06$ ) improved; perceived stress was reduced ( $P = 0.003$ ;  $d = 0.64$ ); mindfulness ( $P = 0.006$ ;  $d = 0.62$ ), flourishing ( $P = 0.002$ ;  $d = 0.63$ ), and recovery experience ( $P = 0.030$ ;  $d = 0.42$ ) also increased significantly. No significant differences in the Attention Network Tests and saliva results occurred (intergroup), except for one saliva value. Conclusions. The web-based training can be a useful tool for stabilizing health/psychological well-being and work/life balance.

Haslam D, Sanders M, Sofronoff K. Reducing Work and Family Conflict in Teachers: A Randomised Controlled Trial of Workplace Triple P. *School Mental Health*. 2013;5(2):70-82.

The purpose of this study was to evaluate the efficacy of a workplace parenting intervention aimed at reducing work-family conflict and improving work and family functioning in teachers. One hundred and seven teachers (who were also parents) were randomly allocated to either a Workplace Triple P intervention condition or a waitlist control condition. Analyses indicated the intervention had a positive effect on a range of occupational variables including work-to-family conflict, family-to-work conflict, occupational stress and teaching efficacy. Intervention effects were also found for family- and personal adjustment-related variables including dysfunctional parenting styles, child behaviour, parenting efficacy, and depression and anxiety. Small to large effect sizes were obtained (Cohen's  $d = .34-.85$ ), and all intervention effects were maintained at 4-month follow-up. The results indicate that a parenting intervention can reduce work-family conflict and occupational stress and improve family functioning in teachers balancing work and family. The implications for supporting teachers with family interventions delivered in the workplace are discussed.

Horan AP. An effective workplace stress management intervention: Chicken Soup for the Soul at Work Employee Groups. 2002;18(1):3-13.

Stress is a costly and significant source of health problems and mental distress--with work cited as a primary stressor. This pilot study supports the effectiveness of a new workplace stress intervention: Chicken Soup for the Soul at Work Employee Groups. In this program, employee-participants met during nine weekly meetings to read inspirational workplace stories, comment, and share their own stories. A leader, chosen from and by the group, guided meetings. Utilizing a wait-list control group design, participants were randomly assigned to

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an experimental or wait-list group. Participants completed pretests and posttests (Coping Resources Inventory, Occupational Stress Inventory-Revised, Job Descriptive Index, Pressure Management Indicator, survey). Statistical interaction effect for subtests was evaluated using a two-way repeated measures analysis of variance. Participants exhibited improved total coping resources, cognitive/rational coping, state of mind, confidence and home/work balance. Participant comments and their continued participation in a similar company-sponsored program bolster these empirical results.

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Poulsen AA, Sharpley CF, Baumann KC, Henderson J, Poulsen MG. Evaluation of the effect of a 1-day interventional workshop on recovery from job stress for radiation therapists and oncology nurses: A randomised trial. *Journal of Medical Imaging and Radiation Oncology*. 2015;59(4):491-8.

Introduction Cancer care workers experience high levels of occupational stress that can have adverse mental and physical health consequences. Educating health professionals about self-care practices throughout their careers can potentially build resilience. Our study aimed to evaluate the effects of an educational intervention to improve recovery from job stress, increase satisfaction with current self-care practices and improve sleep quality. Methods An equivalent, randomised comparison, pretest-post-test intervention design was used to investigate the effects of a 1-day workshop (plus educational material) compared with written educational material alone, on measures of recovery experiences (i.e. psychological detachment from work, relaxation, mastery experiences and control over leisure), satisfaction with recovery-related self-care practices and perceived sleep quality of 70 cancer care workers. Results Workshop participants reported greater mean changes 6 weeks post-workshop for total recovery experiences ( $F(1,69) = 8.145, P = .008$ ), self-care satisfaction ( $F(1,69) = 8.277, P = .005$ ) and perceived sleep quality ( $F(1,69) = 9.611, P = .003$ ). There was a decline in the scores of the control group over the 6-week period for all measures. Workshop participants not only avoided this decline, but demonstrated increased mean scores, with a significant main effect 6 weeks post-workshop, compared with the control group ( $F(3,63) = 4.262, P = .008$ ). Conclusions A 1-day interventional workshop improved recovery skills, satisfaction with self-care practices and perceived sleep quality of oncology nurses and radiation therapists. Outcomes were enhanced when participants actively participated in experiential group-based learning compared with receiving written material alone. This intervention has the potential to enhance resilience and prevent burnout at different points in a cancer worker's career.

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<p>Redhead K, Bradshaw T, Braynion P, Doyle M. An evaluation of the outcomes of psychosocial intervention training for qualified and unqualified nursing staff working in a low-secure mental health unit. <i>Journal of psychiatric and mental health nursing</i>. 2011;18(1):59-66.</p>	<p>Psycho-social intervention (PSI) training results in enhanced knowledge, more positive attitudes, increased confidence and lower levels of clinical burnout for qualified mental health professionals and better outcomes for service users who they work with. This paper describes an evaluation of a PSI training course for qualified and unqualified nurses working in a low-secure unit. Forty-two staff (21 qualified) were randomly allocated to an experimental training group or a waiting list control group. Knowledge, attitudes and burnout were assessed before and after the training. In addition, a random sample of 44 care plans written by the qualified nurses were audited before and after to examine evidence of implementation of PSI in practice. Qualified and unqualified nurses in the experimental group showed significant improvements in knowledge and attitudes compared with the control group. Care plans showed a significant increase in the implementation of PSI. The only significant change in burnout was a reduction in depersonalization for qualified nurses in the experimental group. The PSI training may result in improvements in knowledge, attitude and practice in qualified and unqualified nurses working with severely mentally ill patients in low-secure settings, but in this study the training did not incur protection against burnout.</p>
<p>Ruehl BD. The psychological and physical health effects of written emotional expression in pediatric hematology/oncology, intensive care, and neonatal intensive care nursing staff: Alliant International University; 2013.</p>	<p>The primary goal of this randomized, controlled study was to determine the effects of expressive writing on physical and psychological stress, occupational burnout, absenteeism, and coping behaviors in a population of nurses, considered to be most at risk for negative physical, psychological, and behavioral outcomes. The study applied the written emotional expression intervention developed by Pennebaker (1986) to a group of nurses as compared to a control group condition of similar nurses. Outcome measures of depression, physical illness and physician visits, work absenteeism, mood, job satisfactions, and secondary traumatic stress were examined. There were no significant interaction findings in any of the above constructs, however examination of group means indicate trends of improvement over time in the experimental condition on depression, physical health symptoms, and intrusive symptoms of secondary traumatic stress.</p>
<p>Sforzo GA, Kaye MP, Calleri D, Ngai N. Free choice access to multipoint wellness</p>	<p>Objective: Examine effects of voluntary participation in employer-sponsored, multipoint wellness education programming on employee wellness. Methods: A randomized and controlled design was used to organize 96 participants into an education + access group; an access-only group, and control group. Outcome measures</p>

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education and related services positively impacts employee wellness: a randomized and controlled trial. *J Occup Environ Med.* 2012;54(4):471-7.

were made at start and end of a 12-week intervention period. Results: Education + access improved wellness knowledge, which, in turn, enhanced life satisfaction, employee morale, and energy, and nearly improved stress level. Those who received facility access without educational programming did not reap health benefits. Employees voluntarily used the fitness facility and healthy meal cards only 1.3 and 1.5 times per week, respectively. Conclusions: Participants made limited and likely inadequate use of wellness opportunities. As a result, physical health benefits (e.g., blood pressure, fitness parameters) were not seen in the present study. However, multipoint wellness education resulted in psychosocial health benefits in 12 weeks.

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Takao S, Tsutsumi A, Nishiuchi K, Mineyama S, Kawakami N. Effects of the job stress education for supervisors on psychological distress and job performance among their immediate subordinates: a supervisor-based randomized controlled trial. *Journal of occupational health.* 2006;48(6):494-503.

As job stress is now one of the biggest health-related problems in the workplace, several education programs for supervisors have been conducted to reduce job stress. We conducted a supervisor-based randomized controlled trial to evaluate the effects of an education program on their subordinates' psychological distress and job performance. The subjects were 301 employees (46 supervisors and 255 subordinates) in a Japanese sake brewery. First, we randomly allocated supervisors to the education group (24 supervisors) and the waiting-list group (22 supervisors). Then, for the allocated supervisors we introduced a single-session, 60-min education program according to the guidelines for employee mental health promotion along with training that provided consulting skills combined with role-playing exercises. We conducted pre- and post-intervention (after 3 months) surveys for all subordinates to examine psychological distress and job performance. We defined the intervention group as those subordinates whose immediate supervisors received the education, and the control group was defined as those subordinates whose supervisors did not. To evaluate the effects, we employed a repeated measures analysis of variance (ANOVA). Overall, the intervention effects (time x group) were not significant for psychological distress or job performance among both male ( $p=0.456$  and  $0.252$ ) and female ( $p=0.714$  and  $0.106$ ) subordinates. However, young male subordinates engaged in white-collar occupations showed significant intervention effects for psychological distress ( $p=0.012$ ) and job performance ( $p=0.029$ ). In conclusion, our study indicated a possible beneficial effect of supervisor education on the psychological distress and job performance of subordinates. This effect may vary according to specific groups.

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Wallbank S. Effectiveness of individual clinical supervision for midwives and doctors in stress reduction: findings from a pilot study. Evidence Based Midwifery. 2010;8(2):65-70.

Background. A recent study designed to examine the responses of maternity staff to loss experienced through their work, concluded that staff working in these areas can experience significant clinical levels of stress (Wallbank, 2007). Supporting staff to process and normalise their workplace experiences may help them better care for themselves and the women and families under their care. Aim. To examine the effectiveness of clinical supervision in reducing staff stress. Supervision in this context was not designed to assess clinical competence, but a tool to assist staff with the emotional demands of their work. Methods. In total, 157 participants were invited to participate in this pilot study, 30 agreed and were randomly assigned to a control or treatment group. Participants within the control group received no intervention. Participants randomly assigned to the treatment group received clinical supervision for an average of six sessions with a clinical psychologist. Participants completed measures to assess levels of subjective stress, burnout, compassion fatigue and compassion satisfaction. Conclusion. Results for the treatment group showed significant differences in subjective stress, with average scores decreasing from 29 to 7 ( $p < .0001$ ); compassion satisfaction average scores increased from 37 to 41 ( $p = .001$ ); burnout average scores decreased from 27 to 14 ( $p < .0001$ ); compassion fatigue average scores decreased from 16 to 12 ( $p = 0.004$ ). Systematic, individual clinical supervision appears to have a positive impact on the reduction of stress for staff working in obstetrics and gynecology.

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Zhai F, Raver C, Li-Grining C. Classroom-based interventions and teachers' perceived job stressors and confidence: Evidence from a randomized trial in Head Start settings. Early Childhood Research Quarterly. 2011;26(4):442-52.

Preschool teachers' job stressors have received increasing attention but have been understudied in the literature. We investigated the impacts of a classroom-based intervention, the Chicago School Readiness Project (CSR), on teachers' perceived job stressors and confidence, as indexed by their perceptions of job control, job resources, job demands, and confidence in behavior management. Using a clustered randomized controlled trial (RCT) design, the CSR provided multifaceted services to the treatment group, including teacher training and mental health consultation, which were accompanied by stress-reduction services and workshops. Overall, 90 teachers in 35 classrooms at 18 Head Start sites participated in the study. After adjusting for teacher and classroom factors and site fixed effects, we found that the CSR had significant effects on the improvement of teachers' perceived job control and work-related resources. We also found that the CSR decreased teachers' confidence in behavior management and had no statistically significant effects on job demands. Overall, we

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did not find significant moderation effects of teacher race/ethnicity, education, teaching experience, or teacher type. The implications for research and policy are discussed.

Zwijnsen S, Gerritsen D, Eefsting J, Smalbrugge M, Hertogh C, Pot A. Coming to grips with challenging behaviour: A cluster randomised controlled trial on the effects of a new care programme for challenging behaviour on burnout, job satisfaction and job demands of care staff on dementia special care units. *International Journal of Nursing Studies*. 2015;52(1):68-74.

**Background:** Caring for people with dementia in dementia special care units is a demanding job. Challenging behaviour is one of the factors influencing the job satisfaction and burnout of care staff. A care programme for the challenging behaviour of nursing home residents with dementia might, next to diminishing the challenging behaviour of residents, improve job satisfaction and reduce the care staff's feelings of burnout. **Objectives:** To determine the effects of a care programme for the challenging behaviour of nursing home residents with dementia on the burnout, job satisfaction and job demands of care staff. **Design:** The care programme was implemented according to a stepped wedge design in which care units were randomly divided over five groups with different time points of starting with implementation. **Setting:** 17 Dutch dementia special care units. **Participants:** Care staff members of the 17 units. **Intervention:** The care programme consists of an education package and of various structured assessment tools that guide professionals through the multidisciplinary detection, analysis, treatment and evaluation of treatment of challenging behaviour. **Methods:** Burnout, job satisfaction and job demands were measured before implementation, halfway through the implementation process and after all the care units had implemented the care programme. Burnout was measured with the Dutch version of the Maslach burnout inventory (UBOS-C, three subscales); job satisfaction and job demands were measured with subscales of the Leiden Quality of Work Questionnaire. Mixed model analyses were used to determine effects. Care staff could not be blinded for the intervention. **Results:** Of the 1441 questionnaires, 645 were returned (response 45%, 318 control measurements, 327 intervention measurements) by 380 unique care staff members. Significant effects were found on job satisfaction (0.93, 95% CI 0.48-1.38). On the other outcomes, no significant changes in the scores were found. **Conclusion:** Positive effects of using the Grip on Challenging behaviour care programme were found on job satisfaction, without an increase in job demands.

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**Tabell 6: RCTer sortert etter behandlingstype – Mindfulness (n=12)**

Referanse	Sammendrag
<p>Alexandre D, Neuman A, Hunter J, Morledge T, Roizen M. Po2.63. Efficacy of an 8-week online mindfulness stress management program in a corporate call center. BMC Complementary and Alternative Medicine 2012, 12(Suppl 1):P119.</p>	<p>Authors evaluated the effectiveness of an 8-week online mindfulness stress reduction (OSR) program in reducing work related stress and burnout and in improving well-being in a corporate call center. We also evaluated whether 1-hour weekly group practice and experience sharing at the workplace would improve program retention and engagement. Methods: 161 participants were randomized either to wait-list control (CTL, N=37), OSR (N=54) or OSR and weekly group meetings (OSR+grp, N=70). The Perceived Stress Scale, Maslach Burnout Inventory (professional efficacy and exhaustion subscales), Mindful Attention Awareness Scale and SF36 (emotional well-being and role functioning subscales) were administered at baseline, post intervention and at 8-week follow-up. Results: We observed overall a greater post intervention decrease in stress and exhaustion and increase in mindfulness, emotional well-being and role functioning in the OSR+grp (cohen d=1.3, 0.8, 0.6, 1.4 respectively) compared to OSR (d=1, 0.4, 0.5, 0.8) and wait-list control (d&lt;0.4). This overall improvement was also maintained at follow-up for most measures. The improvement was significantly greater for the OSR compared to CTL for stress and emotional well-being, and for OSR+grp compared to CTL for all outcomes except for professional efficacy. OSR +grp improved significantly more than OSR for stress, emotional well-being and emotional role functioning. Weekly group practice significantly increased program engagement and reduced dropout rate (13% for OSR +grp compared to 55% for OSR). Conclusion: An online mindfulness stress management program when combined with weekly group practice can offer a practical and cost-effective approach to decrease stress and burnout and improve mindfulness and well-being at the workplace.</p>
<p>Ancona M &amp; Mendelson T. Feasibility and preliminary outcomes of a yoga and mindfulness intervention for school teachers. Advances in School</p>	<p>Many public school teachers face formidable challenges, including overcrowded classrooms, limited administrative resources, and high numbers of students with behavioral and emotional problems. Mindfulness-based strategies are a potentially promising means of reducing teachers' stress and enhancing their ability to handle job demands effectively. This pilot randomized study assessed the feasibility and preliminary outcomes of a 6-session yoga and mindfulness program for teachers developed by the Holistic Life Foundation, a local non-profit organization. Seven urban public schools were randomly assigned either to receive the intervention or to</p>



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Mental Health Promotion.  
2014;7(3):156-170.

a no-intervention control condition. A volunteer sample of teachers within those schools participated in the study, with 21 teachers attending the intervention and 22 teachers in the control arm. Intervention feasibility was assessed by examining recruitment response and intervention attendance and by gathering qualitative feedback from intervention instructors and participants. Participants also completed self-report measures of stress and burnout at baseline and post-test to provide preliminary information about intervention effects. Findings suggest the intervention may be beneficial for some teachers, but our recruitment response also highlighted feasibility challenges. Recommendations are presented for enhancing program feasibility and for advancing research on the use of yoga and mindfulness with teachers.

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Asuero A, Queraltó J, Pujol-Ribera E, Berenguera A, Rodríguez-Blanco T, Epstein R. Effectiveness of a mindfulness education program in primary health care professionals: a pragmatic controlled trial. *J Contin Educ Health Prof.* 2014;34(1):4-12.

**Introduction:** Burnout is a very prevalent type of stress among health professionals. It affects their well-being, performance, and attitude toward patients. This study assessed the effectiveness of a training program for primary health care professionals designed to reduce burnout and mood disturbance, increase empathy, and develop mindfulness. **Methods:** Pragmatic randomized controlled trial with pre- and post-intervention measurements of 68 primary health care professionals (43 in the intervention and 25 in the control group) in Spain. The intervention consisted of presentations of clinically relevant topics, mindfulness-based coping strategies, mindfulness practice, yoga, and group discussions (8 sessions of 2.5 hours per week plus a 1-day session of 8 hours). Outcome measures included the Maslach Burnout Inventory, Profile of Mood States, Jefferson Scale of Physician Empathy, Baer's Five Facets Mindfulness Questionnaire, and a questionnaire on changes in personal habits and mindfulness practice. Measurements were performed at baseline and after 8 weeks. **Results:** The intervention group improved in the 4 scales measured. The magnitude of the change was large in total mood disturbance (difference between groups -7.1; standardized effect-size (SES) 1.15) and mindfulness (difference between groups 11; SES 0.9) and moderate in the burnout (difference between groups -7; SES 0.74) and empathy scales (difference between groups 5.2; SES 0.71). No significant differences were found in the control group. **Discussion:** Our study supports the use of mindfulness-based programs as part of continuing professional education to reduce and prevent burnout, promote positive attitudes among health professionals, strengthen patient-provider relationships, and enhance well-being.

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Bostock S & Steptoe A. Can finding headspace reduce work stress? A randomised controlled workplace trial of a mindfulness meditation app. *Psychosomatic Medicine* 2013;75 (3):A36-A37.

We investigated whether mindfulness training using a smartphone app influenced work stress, blood pressure and hair cortisol. Methods: 120 healthy employees from a UK pharma company were recruited. At baseline participants completed a questionnaire assessing work stress (Karasek model), wellbeing (WEMWBS), anxiety and depression (HADS) and mindfulness (FMI). A hair sample was taken. BP was measured with a wrist monitor 5 times over a work day. Participants were randomised to Group 1 (n=65, app group) or Group 2 (n=55, waitlist control). The app consisted of a 45-day programme of 10-20 minute audio mindfulness exercises (www.getsomeheadspace.com). After 8 weeks all measures were repeated at interview. Group 2 then received the app. An online questionnaire was distributed 18 weeks post baseline. Results: 8 weeks 115 participants (96%) completed follow-up. Group 1 spent an average 252min listening to meditation (range 0-725min). The intervention was associated with significant improvements in job control, reduced anxiety and depressive symptoms (Table). There was a dose-response relationship between time meditating and gains in mindfulness, well-being and job control ( $p < 0.01$ ) but not with job demands. Mean BP fell by 1.7/2.1mmHg (SBP/DBP) in Group 1 and by 0.7/0.1mmHg in Group 2. In a model adjusted for age, sex and BMI, the difference in DBP over time between groups was significant (Figure). Hair cortisol concentration did not differ between groups. 18 weeks 75 (65%) completed a questionnaire. Psychological measures were stable for Group 1 respondents. Group 2 responded to the app similarly to Group 1. Conclusions: Self-administered mindfulness training with an app is a feasible method for improving psychological wellbeing at work and may reduce blood pressure. The employer in this trial is now using this app with other employees. Public downloads of the app exceed 150,000.

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Duchemin, A, Steinberg, B, Marks, D, Vanover K, Klatt M. A small randomized pilot study of a workplace mindfulness-based intervention for surgical intensive care unit personnel: effects on salivary alpha-amylase levels. *Journal*

Objective: To determine whether a workplace stress-reduction intervention decreases reactivity to stress among personnel exposed to a highly stressful occupational environment. Methods: Personnel from a surgical intensive care unit were randomised to a stress-reduction intervention or a waitlist control group. The 8-week group mindfulness-based intervention included mindfulness, gentle yoga, and music. Psychological and biological markers of stress were measured 1 week before and 1 week after the intervention. Results: Levels of salivary alpha-amylase, an index of sympathetic activation, were significantly decreased between the first and

<p>of Occupational &amp; Environmental Medicine 2015;57(4):393-9.</p>	<p>second assessments in the intervention group with no changes in the control group. There was a positive correlation between salivary alpha-amylase levels and burnout scores. Conclusions: These data suggest that this type of intervention could decrease not only reactivity to stress but also the risk of burnout.</p>
<p>Flaxman P &amp; Bond F. Worksite stress management training: moderated effects and clinical significance. <i>J Occup Health Psychol</i> Oct 2010;15(4):347-58.</p>	<p>Psychologically healthy participants may dilute the observed effects of worksite stress management training (SMT) programs, therefore hiding the true effectiveness of these interventions for more distressed workers. To examine this issue, 311 local government employees were randomly assigned to SMT based on acceptance and commitment therapy (SMT, n = 177) or to a waitlist control group (n = 134). The SMT program consisted of three half-day training sessions, and imparted a mixture of mindfulness and values-based action skills. Across a 6-month assessment period, SMT resulted in a significant reduction in employee distress. As predicted, the impact of SMT was significantly moderated by baseline distress, such that meaningful effects were found only among a subgroup of initially distressed workers. Furthermore, a majority (69%) of these initially distressed SMT participants improved to a clinically significant degree. The study highlights the importance of accounting for sample heterogeneity when evaluating and classifying worksite SMT programs.</p>
<p>Flook L, Goldberg S, Pinger L, Bonus K, Davidson R. Mindfulness for teachers: A pilot study to assess effects on stress, burnout and teaching efficacy. <i>Mind Brain Educ</i>. 2013;7(3).</p>	<p>This study reports results from a randomized controlled pilot trial of a modified Mindfulness-Based Stress Reduction course (mMBSR) adapted specifically for teachers. Results suggest that the course may be a promising intervention, with participants showing significant reductions in psychological symptoms and burnout, improvements in observer-rated classroom organization and performance on a computer task of affective attentional bias, and increases in self-compassion. In contrast, control group participants showed declines in cortisol functioning over time and marginally significant increases in burnout. Furthermore, changes in mindfulness were correlated in the expected direction with changes across several outcomes (psychological symptoms, burnout, and sustained attention) in the intervention group. Implications of these findings for the training and support of teachers are discussed.</p>

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Klatt M, Norre C, White S. The efficacy of an English-to-Danish translation of a low-dose mindfulness workplace intervention for Scandinavian bank employees on stress. *BMC Complementary and Alternative Medicine*. 2012;12.

**Purpose:** To determine the impact of a low-dose mindfulness based intervention, translated from English to Danish, delivered at the worksite on stress, sleep, and work engagement, for a group of Scandinavian bank employees. **Methods:** In a randomized, wait-list control longitudinal design, employees from a large Scandinavian bank (n=57) were recruited for a standardized worksite low-dose Mindfulness-Based Intervention (MBI). Participants, randomized and stratified to group by gender, were 39% middle-upper management employees, 41% support staff or consultant status. Mean age was 43 years with 31% males and 69% females. Changes in stress were evaluated pre/post intervention and 8 weeks post intervention via the Perceived Stress Scale (PSS), sleep quality via the Pittsburgh Sleep Quality Index (PSQI), and work engagement, using Utrecht Work Engagement Scale-9 (UWES-9). **Results:** A significant group x time effect was observed for PSS scores ( $p < 0.001$ ) as the treatment group decreased from 19.00 (sd = 5.46) to 14.07 (sd=4.92) after treatment while the control group showed virtually no change during that time period. There was also a significant decrease (increase in sleep quality) in the PSQI ( $p = 0.005$ ) for the intervention group only, as scores decreased from 5.93 (sd=1.80) to 3.89 (sd=1.60) after treatment. In sleep quality sub scales, significant shifts in the treatment group were noted in the subjective sleep quality component ( $p = 0.007$ ) and daytime dysfunction ( $p = 0.004$ ). At 2 months after the intervention ended, no additional significant changes in the PSS, PSQI or the PSQI components were observed, but nor did scores return to pre treatment values for the intervention group. **Conclusion:** A low-dose standardized MBI translated into Danish was effective in helping Scandinavian bank employees manage stress, have better quality of sleep, and be more awake and functional during work hours. This standardized MBI was effective beyond its cultural/language origin in addressing workplace stress.

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Moody K, Kramer D, Santizo RO, Magro L, Wyshogrod D, Ambrosio J, et al. Helping the helpers: Mindfulness training for burnout in pediatric oncology-a pilot program.

**Background.** Burnout, a syndrome of emotional exhaustion, depersonalization, and diminished feelings of accomplishment, is common among pediatric oncology staff. This study explores a mindfulness-based course (MBC) to decrease burnout in a multidisciplinary group of pediatric oncology staff members in the United States and Israel. **Materials and methods.** Forty-eight participants, mostly nurses, were randomized to either the MBC intervention or a control group. MBC participants received eight weekly sessions of mindfulness edu-

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Journal of Pediatric Oncology Nursing. 2013;30(5):275-84.

cation. The primary outcome studied was burnout. Secondary outcomes studied included depression and perceived stress. Results. Nearly 100% of the subjects exhibited signs of burnout at baseline and MBC did not result in any significant improvement in scores on burnout, perceived stress or depression scales. Qualitative analysis of diaries kept by subjects revealed reduced stress, improved inner peace, compassion and joy, better focus and self-awareness and less somatic symptoms in the intervention arm. Conclusions. Burnout is a major problem in pediatric oncology staff. Mindfulness practices can be taught in the workplace and may be a useful component of a multidimensional strategy to reduce burnout in this population.

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Roeser RW, Schonert-Reichl KA, Jha A, Cullen M, Wallace L, Wilensky R, et al. Mindfulness training and reductions in teacher stress and burnout: Results from two randomized, waitlist-control field trials. *Journal of Educational Psychology*. 2013;105(3):787-804.

The effects of randomization to mindfulness training (MT) or to a waitlist-control condition on psychological and physiological indicators of teachers' occupational stress and burnout were examined in 2 field trials. The sample included 113 elementary and secondary school teachers (89% female) from Canada and the United States. Measures were collected at baseline, post-program, and 3-month follow-up; teachers were randomly assigned to condition after baseline assessment. Results showed that 87% of teachers completed the program and found it beneficial. Teachers randomized to MT showed greater mindfulness, focused attention and working memory capacity, and occupational self-compassion, as well as lower levels of occupational stress and burnout at post-program and follow-up, than did those in the control condition. No statistically significant differences due to MT were found for physiological measures of stress. Mediation analyses showed that group differences in mindfulness and self-compassion at post-program mediated reductions in stress and burnout as well as symptoms of anxiety and depression at follow-up. Implications for teaching and learning are discussed.

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Shapiro SL, Astin JA, Bishop SR, Cordova M. Mindfulness-Based Stress Reduction for Health Care Professionals: Results From a Randomized Trial. *International Journal of*

The literature is replete with evidence that the stress inherent in health care negatively impacts health care professionals, leading to increased depression, decreased job satisfaction, and psychological distress. In an attempt to address this, the current study examined the effects of a short-term stress management program, mindfulness-based stress reduction (MBSR), on health care professionals. Results from this prospective randomized controlled pilot study suggest that an 8-week MBSR intervention may be effective for reducing stress and increasing quality of life and self-compassion in health care professionals. Implications for future research and practice are discussed.

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Taylor C, Harrison J, Haimovitz K, Oberle E, Thomson K, Schonert-Reichl K, et al. Examining ways that a mindfulness-based intervention reduces stress in public school teachers: A mixed-methods study. *Mindfulness*. 2015;No Pagination Specified.

Mindfulness-based interventions (MBIs) can reduce teachers' stress. The purpose of this mixed-method study, conducted within the context of a randomized-control trial of an MBI for teachers, was to examine four potential ways by which the MBI reduced teacher stress, including by (1) increasing their efficacy for regulating emotion on the job; (2) improving their ways of coping with stress at work; (3) increasing their efficacy for forgiving colleagues and students at work following conflict, as well as the tendency to do so; and (4) increasing teachers' tendency to feel compassion for people generally, and for challenging students in particular. Public school teachers (n = 59) were randomized to an MBI or a waitlist control condition. They completed surveys at pre/post/follow-up and interviews at post-program designed to assess their coping with work stressors and their appraisals of their most challenging students. Survey data showed that efficacy beliefs and the tendency to forgive changed from pre/post for teachers in the MBI, and partially mediated reductions in stress from baseline to 4-month follow-up. Interview results showed a trend for teachers in the MBI to report more adaptive strategies for coping with job stress, and a tendency to evaluate challenging students in a more positive affective light. Implications for MBIs in teacher professional development are discussed.

**Tabell 7: RCTer sortert etter behandlingstype – Helsefremmende, livsstil og atferdsendring (n= 10)**

Referanse	Sammendrag
<p>Billings DW, Cook RF, Hendrickson A, Dove DC. A web-based approach to managing stress and mood disorders in the workforce. <i>J Occup Environ Med.</i> 2008;50(8):960-8.</p>	<p>Objective: To evaluate the effectiveness of a web-based multimedia health promotion program for the workplace, designed to help reduce stress and to prevent depression, anxiety, and substance abuse. Methods: Using a randomized controlled trial design, 309 working adults were randomly assigned to the web-based condition or to a wait-list control condition. All participants were assessed on multiple self-reported outcomes at pretest and posttest. Results: Relative to controls, the web-based group reduced their stress, increased their knowledge of depression and anxiety, developed more positive attitudes toward treatment, and adopted a more healthy approach to alcohol consumption. Conclusions: We found that a brief and easily adaptable web-based stress management program can simultaneously reduce worker stress and address stigmatized behavioral health problems by embedding this prevention material into a more positive stress management framework.</p>
<p>Bragard I, Etienne A, Merckaert I, Libert Y, Razavi D. Efficacy of a communication and stress management training on medical residents' self-efficacy, stress to communicate and burnout: a randomized controlled study. <i>J Health Psychol.</i> 2010;15(7):1075-81.</p>	<p>This is a longitudinal randomized controlled study investigating the efficacy of a communication and stress management skills training programme on medical residents' self-efficacy to communicate and to manage stress in interviews, stress to communicate in interviews, and burnout. Ninety-six medical residents participated. Results showed a statistically significant increase in self-efficacy and decrease in stress to communicate. No changes were noted in burnout. Results of this training may encourage its compulsory organization in the medical curriculum. Further research is required to examine whether a programme associating person-directed and organization-directed interventions could have an impact on residents' burnout.</p>
<p>Brown R.; Butow P.; Aldridge J.; Uraskova I.; Zoller P.; Boyle F.; Wilson-Genderson</p>	<p>Background: Informed consent is required for both standard cancer treatments and experimental cancer treatments in a clinical trial. Effective and sensitive physician-patient communication about informed consent is</p>

M.; Bernhard J. The impact of consultation skills training on shared decision making on doctor behavior, confidence and stress and burnout: A randomized controlled trial. *Psycho-Oncology* / 2014;23:148-149

difficult to achieve. Our aim was to train doctors in clear, collaborative and ethical communication about informed consent, and evaluate the impact of training on the doctors' communication behavior and their levels of stress and satisfaction with training and confidence in information provision. Method: Participants were 21 oncologists from 10 Australian/New Zealand (ANZ) centers and 41 oncologists from 10 Swiss/German/Austrian (SGA) centers. Oncologists were randomized to participate in a 1-day workshop or not. Patients were recruited before and after the training. Doctors submitted 1-2 audiotaped consultations and completed outcome measures before and after training. The training consisted of a seven-hour interactive face-to-face workshop with a follow-up telephone call one month later. The training incorporated written and oral materials (2 hours), a video modeling ideal behavior (30 minutes), role-play practice (4 hours), and individualized feedback on audio-taped consultations with actual patients (30 minutes). Results: Ninety-five consultation interactions were audiotaped. Doctors strongly endorsed the training. Coding of all consultation transcripts, using the Decision Analysis System for Oncology, revealed that ANZ intervention doctors demonstrated a significant increase in collaborative communication after training while those in the control declined in their use of collaborative behaviors during the study period. ( $p = 0.03$ ). There was no effect of training on other doctor communication behaviors. Trained doctors did not demonstrate increased confidence in their information provision or reduced stress and burnout. Conclusions: Targeted skills training about shared decision making can facilitate positive changes in oncologists' communication behaviors. Perhaps doctors in the control group attempted to appear as skilled as possible at pre-training assessment, but relapsed into more usual behavior at post-training assessment as motivation to conform to socially desirable communication decreased. Confidence in providing clear and unbiased information did not improve. This may have been due to a ceiling effect, with most participating doctors scoring well on these subscales prior to randomization. Finally, it may not be surprising that targeting one factor (communication efficacy) was not sufficient to reduce stress and burnout. Research implications: Our finding in the control group suggest that measuring behavior at two time points is not sufficient, and rather an averaged baseline over several assessment points is required to overcome social desirability effects. Oncologists were able to take up collaborative communication skills but struggled with more subtle skills related to avoiding coercion and information giving. Perhaps more attention should be directed towards these latter skills and would be better practiced within more challenging scenarios. Clinical implications: Finding a balance between practicality and efficacy is always a challenge, and many clinicians struggle to



find time to attend longer workshops. Nevertheless, achievement of extensive change may require a longer commitment. Shorter, but more frequent sessions (short workshops once a month, or weekly 1-hour webinars) may be an effective but feasible way of delivering training. Alternately, increasing the saliency of training by targeting specific challenging scenarios may improve efficacy beyond generic SDM workshops.

Christensen JR, Overgaard K, Hansen K, Sogaard K, Holtermann A. Effects on absenteeism and absenteeism from a 1-Year workplace randomized controlled trial among health care workers. *Journal of Occupational and Environmental Medicine.* 2013;55(10):1186-90.

Objectives: It is unknown whether workplace interventions successfully improving health outcomes can also provide concurrent improvements in presenteeism and absenteeism. Methods: A 1-year cluster randomized controlled trial was conducted on 144 employees at a care unit in Denmark. The intervention consisted of calorie-limited diet, physical exercise, and cognitive behavioral training during working hours 1 hour per week. The reference group was offered presentations about healthy lifestyle. Absenteeism and presenteeism (productivity, workability, and sickness absence) were recorded at baseline and after 3 and 12 months of intervention. Results: In intention-to-treat analysis, a significant effect of the intervention was found for productivity after 3 months. Nevertheless, after 12 months no significant effects on absenteeism or presenteeism were found. Conclusions: This study suggests that a worksite intervention, despite successfully reducing overweight, does not induce lasting improvements on absenteeism or presenteeism.

Deitz D, Cook RF, Hersch RK, Leaf S. Heart healthy online: an innovative approach to risk reduction in the workplace. *J Occup Environ Med.* 2014;56(5):547-53.

Objectives: To examine whether a Web-based cardiovascular health promotion program was associated with changes in self-reported behaviors, attitudes, and biometric indicators in a population of working adults. Methods: Employees (n = 210) were recruited and randomized into either an Internet-based or control condition. Participants completed pre- and post-intervention self-report assessments on diet, exercise, smoking, and mental health. Pre- and post-intervention biometric screenings were also obtained on blood pressure, heart rate, weight, and hip/waist circumference. Results: The intervention was associated with significant improvements in dietary attitudes (P = 0.003; F = 8.83), dietary intentions (P = 0.031; F = 4.72), dietary self-efficacy (P = 0.015; F = 5.97), exercise self-efficacy (P = 0.002; F = 9.51), exercise habits (P = 0.016; F = 5.94), and coping with stress (P = 0.003; F = 8.85) and depression (P = 0.036; F = 4.46). Conclusions: The program showed promise for promoting cardiovascular risk reduction behaviors. These results are consistent with similar Web-based interventions.

Eriksen HR, Ihlebaek C, Mikkelsen A, Gronningsaeter H, Sandal GM, Ursin H. Improving subjective health at the worksite: A randomized controlled trial of stress management training, physical exercise and an integrated health programme. *Occupational Medicine*. 2002;52(7):383-91.

Our objective was to evaluate the effect of 12 weeks of stress management training (SMT), physical exercise (PE) and an integrated health programme (IHP) in a worksite setting on subjective health complaints. To do this, we randomly split 860 employees into the following groups: control (n = 344), PE (n = 189), IHP (comprising physical exercise and health information) (n = 165) and SMT (n = 162). There were no significant effects on subjective health complaints, sick leave or job stress. However, strong and specific positive effects were experienced for the particular goal areas defined for each intervention. The PE group showed improved general health, physical fitness and muscle pain, while the SMT group showed improved stress management. The IHP group showed the strongest effects, affecting most goals set for treatment.

Fujimori M & Uchitomi Y. Effect of communication skills training program for oncologists on their burnout and psychiatric disorder. *Psychology* 2015;24:281

Background/purpose: A communication skills training (CST) program for oncologists has been developed and shown to be effective for both their communication performance during simulated consultation, their confidence in communicating with patients and patients' psychological distress. The aim of this study was to identify the effects of the CST program on oncologists' burnout and psychological distress. Methods: Thirty oncologists were randomly assigned to either an intervention group (IG; 2-day CST workshop) or control group (CG). Participants were assessed regarding their burnout using the Maslach Burnout Inventory (MBI) and their psychological distress using the General Health Questionnaire 12-item version (GHQ-12) at baseline and 3 months after CST as a follow-up. The MBI consists of 22 items grouped into three factors: emotional exhaustion (EE, 9 items), depersonalization (DP, 5 items) and personal accomplishment (PA, 8 items). The GHQ-12 consists of 12 items. Time change in the baseline and follow-up surveys of the factors related to MBI and the GHQ-12 were analyzed using one-way analysis of variance (ANOVA) with controlled baseline data. Results: At follow-up, the mean scores (+/-SD) of the EE, DP and PA factors of MBI and the GHQ-12 were 20 +/-14, 4 +/-4, 29 +/-9, 2 +/-3 in IG and 19 +/-9, 4 +/-4, 27 +/-12, 1 +/-2 in CG, respectively. The prevalence of them was 10-40%. There were not significant differences between groups by one-way ANOVA in the mean difference

scores (+/-SD) of the factors of MBI (EE: DELTA=1+/-12 in IG; DELTA= 0 +/-7 in CG, DP: DELTA= 1+/- 2 in IG; DELTA= -2+/- 4 in CG, PA: DELTA=0 +/-8 in IG; DELTA=-1 +/- 6 in CG) and the GHQ-12 (DELTA=1 +/-3 in IG; DELTA= 0 +/-3 in CG). At follow-up, low scores of EE, DP, and GHQ-12 were associated with older and low scores of them at baseline, and high score of PA was associated with higher confidence in communication skills, high score of it at baseline and female. Conclusions: A CST program for oncologists is not shown to be effective in decreasing the level of burnout and psychological distress at 3 months after CST. Research Implications: Future study needs to explore the communication related factors associated with burnout and psychiatric disorder of oncologists. Practice Implications: There is a need for showing that a CST is not effective in decreasing the level of burnout and psychological distress at 3 months after CST to oncologists who participate in CST.

Gholipour Baradari, A.; Hoseini, S. H.; Zamani Kiasari, A.; Ala, S.; Emami Zeydi, A.; Mahdavi, A.; Mirbakhshi, S. F. Effect of zinc supplement on job stress of ICU nurses. (Persian) Journal of Babol University of Medical Sciences 2013;15(1):38-45.

Background and objective: Nursing is one of the stressful jobs and its employees have high ranking in visit the doctor because of psychological problems. On the other hand stress causes reduced level of serum zinc and complications related to its deficiency. So the aim of this study was to evaluate the effect of zinc supplement on ICU nurses under job stress in educational hospital, Sari-Iran in 2011. Methods: In this double-blind randomized clinical trial (RCT), 90 female ICU nurses who completed Osipow job stress questionnaire and had job stress and had been qualified for study entry, randomly allocated in two equal intervention and control groups. At the beginning of the study, five milliliter blood was sampled from antecubital vein for measuring of serum Zinc. Intervention group received one capsule zinc sulfate 220 mg per 72 hours for four weeks and control group received one capsule placebo in the same way. Again at the end of the 4<sup>th</sup> week, job stress and serum Zinc level was measured in both groups and compared. Findings: In intervention group serum zinc level at the end of the study (88.25+13.2 mcg/dl) was significantly increased in comparison to before the study (56.63+15.8 mcg/dl) (p<0.05). But in control group the difference between serum zinc level before (54.72+15.1 mcg/dl) and after the study (59.35+14.7 mcg/dl) was not significant. There was no significant change in overall value of job stress before (208.39+31) and after the intervention (206.65+29) in both study groups. In intervention group, in three dimensions of job stress (role overload, role ambiguity and responsibility) significant reduction was seen (p<0.05) but in control group there was no significant change in any dimensions of

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job stress. Conclusion: Considering to the finding of the present study, to reduce some dimensions of job stress in ICU nurses, zinc supplement usage seems logical.

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Jacquet A, Grolleau A, Jove J, Lassalle R, Moore N. Randomized double-blind placebo-controlled clinical trial of a dietary supplement (target-1) on professional fatigue syndrome (burnout). *Fundamental and Clinical Pharmacology*. 2014;28:24.

Background: The professional fatigue or burnout syndrome is the result of severe professional stress, and carries a considerable societal burden. To date, treatments have shown little evidence of efficacy. We tested a dietary supplement combining products purported to have anti-stress or anti-fatigue effects. Methods: Double-blind randomized placebo-controlled clinical trial of a dietary supplement including casezpine, a melon extract, taurine, and Eleutherococcus senticosus (Target-1), given daily for 12 weeks. Main outcome was difference of change between treatment groups in the 7-point BMS-10 burnout scale. Secondary outcomes included the MBI-HSS burnout scale, Beck Depression inventory, and visual analogue scales for professional and family quality of life, quality of sleep and perceived energy. Results: After 12 weeks of treatment or placebo, the BMS-10 went from a mean of 5.0 (SD 0.5) to 2.7 (SD 0.9) in the active group (n = 44) vs. 4.9 (0.5) to 4.3 (0.8) in the placebo group (n = 43). Treatment effect size was 1.7 points (95% Confidence Interval (CI) 1.3-2.1),  $P < 0.001$ . Relative improvement was 34.2% (95% CI 26.9-41.5),  $P < 0.001$ . Initially 86% of active group patients were classified as severe/very severe burnout compared to 4% at 12 weeks. In the placebo group these figures were 78% and 44%, respectively ( $P < 0.0001$  vs. active). Secondary outcomes showed similar results. Conclusion: This dietary supplement was associated with significant improvement of the symptoms of professional stress or burnout, after 12 weeks' treatment, compared to placebo.

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Linzer M, Poplau S, Grossman E, Varkey A, Yale S, Williams E, et al. A Cluster Randomized Trial of Interventions to Improve Work Conditions and Clinician Burnout in Primary Care: Results from the Healthy Work Place (HWP)

Background: Work conditions in primary care are associated with physician burnout and lower quality of care. Objective: We aimed to assess if improvements in work conditions improve clinician stress and burnout. Subjects: Primary care clinicians at 34 clinics in the upper Midwest and New York City participated in the study. Study design: This was a cluster randomized controlled trial. Measures: Work conditions, such as time pressure, workplace chaos, and work control, as well as clinician outcomes, were measured at baseline and at 12-18 months. A brief work life and work conditions summary measure was provided to staff and clinicians at intervention sites. Interventions: Diverse interventions were grouped into three categories: 1) improved communi-

Study. Journal of General Internal Medicine. 2015;30(8):1105-11.

cation; 2) changes in workflow, and 3) targeted quality improvement (QI) projects. Analysis: Multilevel regressions assessed impact of work life data and interventions on clinician outcomes. A multilevel analysis then looked at clinicians whose outcome scores improved and determined types of interventions associated with improvement. Results: Of 166 clinicians, 135 (81.3 %) completed the study. While there was no group treatment effect of baseline data on clinician outcomes, more intervention clinicians showed improvements in burnout (21.8 % vs 7.1 % less burned out,  $p = 0.01$ ) and satisfaction (23.1 % vs 10.0 % more satisfied,  $p = 0.04$ ). Burnout was more likely to improve with workflow interventions (Odds Ratio (OR) of improvement in burnout 5.9,  $p = 0.02$ ), and with targeted QI projects than in controls (OR 4.8,  $p = 0.02$ ). Interventions in communication or workflow led to greater improvements in clinician satisfaction (OR 3.1,  $p = 0.04$ ), and showed a trend toward greater improvement in intention to leave (OR 4.2,  $p = 0.06$ ). Limitations: We used heterogeneous intervention types, and were uncertain how well interventions were instituted. Conclusions: Organizations may be able to improve burnout, dissatisfaction and retention by addressing communication and workflow, and initiating QI projects targeting clinician concerns.

### Tabell 8: RCTer sortert etter behandlingstype – Komplementær/alternativ medisin (n = 8)

Referanse	Sammendrag
Hansen, T. M.; Hansen, B.; Ringdal, G. I. Does aromatherapy massage reduce job-related stress? Results from a randomised, controlled trial. International Journal of Aromatherapy 2006;16(2):89-94.	The aim of this study was to test whether aromatherapy massage has a positive effect on job-related stress. The study was a randomised controlled trial. Eighteen nurses from two psychiatric hospitals were given six aromatherapy massage treatment sessions on a once-a-week basis. Fourteen nurses from the same hospitals formed a control group. The effect of the treatment was measured by Cooper's Job Stress Questionnaire. There was a significant decrease in reported stress in the experiment group. The result may have implications for job-related stress in the workforce and be of significant economic value.

Kurebayashi LFS, Gnatta JR, Borges TP, da Silva MJP. Applicability of auriculotherapy in reducing stress and as a coping strategy in nursing professionals. *Revista Latino-Americana de Enfermagem*. 2012;20(5):980-7.

**Aims:** randomized clinical trial aimed at evaluating the auriculotherapy in reducing stress levels in 75 nursing professionals and analyze the coping domains that have changed after treatment. **Methodology:** volunteers were divided into 3 groups (Control, Needles and Seeds) and received eight sessions at Shenmen, Kidney and Brainstem points. The Control Group didn't receive any intervention. **Results:** ANOVA test showed statistical differences in stress levels for Needle/Control Groups in the third and fourth assessments, according to Stress Symptoms List when compared the three groups in four assessments. For the Inventory of Folkman/Lazarus, a significant difference was obtained for Spacing domain between needle/control. In analysis within the same group, differences were found for Confrontation in fourth assessment between Needle/Control Groups and for Social Support in the third one between Seeds/Control Groups. **Conclusion:** The auriculotherapy decreased stress levels, changed Coping domains after treatment, suggesting that both Auriculotherapy with needles and seeds can produce positive impact to improve strategy Coping in the nursing team. However, more studies are needed to conceive the extent of the technique.

Lai HL, Li YM. The effect of music on biochemical markers and self-perceived stress among first-line nurses: a randomized controlled crossover trial. *Journal of advanced nursing*. 2011;67(11):2414-24.

**Aim:** The aim of this study was to examine the effects of music on stress indices and to examine the association between music preference and stress. **Background:** Although clinical studies have demonstrated the effectiveness of music on stress, study results have been inconsistent. At the time of writing, no known publications had investigated the effects of preferred music on workers in high-stress professions such as nursing. **Methods:** Using a randomized crossover controlled trial, 54 nurses were randomly assigned to a music/chair rest sequence or chair rest/music sequence during the period February to June 2006. Each intervention lasted for 30 minutes. Participants in the music condition listened to self-selected soothing music using headphones for 30 minutes. In the chair rest condition, participants sat quietly for 30 minutes. Serial measurements of participants' heart rate, mean arterial pressure, finger temperature and cortisol levels were taken with a BP monitor and chemiluminescent immunoassay every 15 minutes throughout the procedure. **Findings:** Compared with chair rest, participants had a lower perceived stress level, cortisol, heart rate, mean arterial pressure and higher finger temperature while listening to music ( $P < 0.05$ ). Significant differences were also found between the two conditions in terms of post-test heart rate, cortisol levels, finger temperature and mean arterial pressure ( $P < 0.05$ ). Music preference scores ranged between 7 and 10, with a mean score of 8.81 ( $sd = 1.05$ ), and

was significantly associated with mean arterial pressure, cortisol levels, self-perceived stress and finger temperature. Conclusion: The findings provided evidence for nurses to use soothing music as a research-based nursing intervention for stress reduction.

- Mehrabi T, Gorji S, Zolfaghari B, Razmjoo R. The effect of Rosmarinus herbal tea on occupational burnout in Iran. *Chemical Industry Investment company employees. Iranian Journal of Nursing and Midwifery Research.* 2015;20(4):460-4.
- Background: Burnout is one of the most important problems that the employees encounter. Many health problems arise due to burnout which is to be dealt with by the employees and the owners in the industry. Among many different ways of dealing with this problem, herbal therapy seems to be a promising solution. The present study intended to investigate the effect of *Rosmarinus officinalis* (RO) on burnout in employees who work in industrial environments. Materials and methods: An experimental study was performed to see whether RO has an effect on burnout or not. A total of 66 employees, aged between 20 and 60 years, who had worked for at least 1 year in the technical wards of Iran Chemical Industry Investment Company took part in the study. The participants were randomly assigned to two groups of control (n = 33) and RO (n = 33). The RO group received 4 g of Rosemary in 150 cc water per day for 2 months. The control group, on the other hand, did not receive anything. The data were collected via Geldard (1989) Burnout Inventory before and after the treatment. A t-test was performed to analyze the collected data. Results: The results of statistical tests showed that after intervention, the score of occupational burnout in RO group was better, and a significant difference was found between the control and experimental groups (P = 0.03), in favor of the experimental group. Conclusions: The results of the study revealed that *Rosmarinus* had a positive effect on burnout in employees in this study. Further studies in this field are suggested.

- Plodek JL. The effects of daily Usui Ryoho Reiki self-treatment on the perceived stress of staff nurses: Saybrook Graduate School and Research Center; 2011.
- Stress and stress-related diseases have reached epidemic proportions in contemporary society, yet there is little research on how self-care methods might be used to reduce the work-related stress of nurses. The purpose of this study was to evaluate the effectiveness of using daily Usui Ryoho Reiki self-treatments as self-care to reduce perceived stress among nurses. The research was guided by two hypotheses: (a) daily use of Usui Ryoho Reiki would reduce cortisol levels, and (b) daily use of Usui Ryoho Reiki would reduce the perceived level of stress. This study used a mixed-method approach consisting of an experimental group (n = 11) and a wait-list control group (n = 11) for a total of 22 subjects. The mixed-method design included a randomized control trial,

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and utilized the Perceived Stress Scale, salivary cortisol samples, and daily practice logs, along with qualitative focus group interviews, with nurses using Usui Ryoho Reiki as self-care and with a control group. The sample size was smaller than planned and extraneous variables made continued participation in the study difficult. As a result, the findings of this study are inconclusive. The quantitative findings did not support the hypotheses; however, the qualitative focus groups findings evidenced a decrease in perceived stress, an increase in relaxation, and a decrease in physical symptoms such as palpitations. The marginal trending revealed in the results of the Perceived Stress Scale and cortisol testing, along with the focus group data, supports the need for further research. Research using a larger group sample over an extended period of time has the potential to determine whether Usui Ryoho Reiki for self-treatment is an effective self-care intervention, reducing stress among nurses.

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Rosada RM, Rubik B, Mainguy B, Plummer J, Mehl-Madrona L. Reiki reduces burnout among community mental health clinicians. *Journal of Alternative and Complementary Medicine*. 2015;21(8):489-95.

**Background:** Clinicians working in community mental health clinics are at high risk for burnout. Burnout is a problem involving emotional exhaustion, depersonalization, and reduced personal accomplishment. Reiki is a holistic biofield energy therapy beneficial for reducing stress. The purpose of this study was to determine if 30 minutes of healing touch could reduce burnout in community mental health clinicians. **Methods:** We utilized a crossover design to explore the efficacy of Reiki versus sham Reiki, a pseudo treatment designed to mimic true Reiki, as a means to reduce symptoms of burnout. Subjects were randomized to whether they started with Reiki or sham. The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) and the Measure Your Medical Outcome Profile Version 2 (MYMOP-2) were used as outcome measures. Multilevel modeling was used to represent the relations among variables. **Results:** Reiki was statistically significantly better than sham Reiki in reducing burnout among community mental health clinicians ( $p=0.011$ ). Reiki was significant in reducing depersonalization ( $p<0.001$ ), but only among single people. Reiki reduced the primary symptom on the MYMOP also only among single people ( $p=0.03$ ). **Conclusions:** The effects of Reiki were differentiated from sham Reiki. Reiki could be helpful in community mental health settings for the mental health of the practitioners.

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Saeedi M, Malekhosseini A, Hekmatpou D, Ghafarzadegan R, Hajiaghache R. The effect of Ginkgo on stress level of nurses. (Persian). *Journal of Medicinal Plants*. 2014;13(50):64-72.

**Background:** Mental Health of Nurses in recent decades, attracted more attention. Therefore strategies to reduce stress level is essential. **Objective:** Ginkgo biloba is one of these herbs that has widely usage in complementary medicine. With regard to the these points and consider of positive effects of Ginkgo biloba, this study aimed to assess the effect of Ginkgo biloba on nurses stress levels. **Methods:** This clinical trial was a double blinded cross sectional study that nurses eligible to participate in the study using sampling methods were selected and Then randomly given drug or placebo to nurses. The medication and placebo was 40 mg, twice a day. After the two -week, the experimental and control group were switched. **Result:** In this study 62 nurses for two weeks consume ginkgo. Sum score of occupational stress questionnaire in case group after intervention was 40.15 with standard deviation 10.26. sum score of occupational stress questionnaire in control group after intervention was 34.55 with standard deviation 12. **Conclusion:** With regard that stress in nurses has problems such as decrease quality of care and unsatisfaction and unefficacy and fatigue and these factors lead to emotional disorder then intervention for control them is necessary. Therefore with regard that this research identify positive effect of ginkgo on stress levels and ginkgo is a part of complimentary therapy has a wildy application then we can use that for increase quality of life in nurses.

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Varney E, Buckle J. Effect of inhaled essential oils on mental exhaustion and moderate burnout: A small pilot study. *Journal of Alternative and Complementary Medicine*. 2013;19(1):69-71.

**Objectives:** The objective of this pilot study was to determine the effectiveness of a mixture of essential oils (peppermint, basil, and helichrysum) on mental exhaustion, or moderate burnout (ME/MB) using a personal inhaler. **Design:** This was a randomized, controlled, double-blind pilot study. Data were collected 3 times a day for 3 weeks (Monday-Friday). The first week was baseline for both groups, the second week was intervention (aromatherapy or placebo), and the third week was washout. **Settings/location:** Participants used a personal inhaler at home or at work. **Subjects:** The subjects comprised a convenience sample of 13 women and 1 man who each had self-assessed ME/MB. **Interventions:** Participants were randomized to receive a personal inhaler containing either a mixture of essential oils or rose water (as used in Indian cooking). **Outcome measures:** The outcome measures were a 0-10 scale with 10=worst feeling of burnout, 0=no feeling of burnout. There was a qualitative questionnaire rating aroma and a questionnaire listing perceived stressors. **Results:** While both

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groups had a reduction in perception of ME/MB, the aromatherapy group had a much greater reduction. Conclusions: The results suggest that inhaling essential oils may reduce the perceived level of mental fatigue/burnout. Further research is warranted.

**Tabell 9: RCTer sortert etter behandlingstype – Kognitiv atferdsterapi (n=6)**

Referanse	Sammendrag
<p>Borness C, Proudfoot J, Crawford J, Valenzuela M. Putting brain training to the test in the workplace: a randomized, blinded, multisite, active-controlled trial. PLoS One. 2013;8(3):e59982.</p>	<p>Background: Cognitive training (CT) is effective at improving cognitive outcomes in children with and without clinical impairment as well as older individuals. Yet whether CT is of any preventative health benefit to working age adults is controversial. Our objective was therefore to investigate the real-world efficacy of CT in the workplace, involving employees from across the working-age spectrum and addressing many of the design issues that have limited trials to date. Methods and findings: 135 white collar employees of a large Australian public sector organization were randomised to either 16 weeks (20 minutes three times per week) of online CT or an active control (AC) program of equal length and structure. Cognitive, wellbeing and productivity outcome measures were analysed across three timepoints: baseline, immediately after training and 6 months post-training. CT effects on cognitive outcomes were limited, even after planned subgroup analyses of cognitive capacity and age. Unexpectedly, we found that our AC condition, which comprised viewing short documentaries about the natural world, had more impact. Compared to the CT group, 6 months after the end of training, those in the AC group experienced a significant increase in their self-reported Quality of Life (Effect Size <math>g = .34</math> vs <math>-.15</math>; TIMExGROUP <math>p = .003</math>), decrease in stress levels (<math>g = .22</math> vs <math>-.19</math>; TIME x GROUP <math>p = .03</math>), and overall improvement in Psychological Wellbeing (<math>g = .32</math> vs <math>-.06</math>; TIMExGROUP <math>p = .02</math>). Conclusions: CT does not appear to positively impact cognition or wellbeing amongst white collar office workers; however, short time-out respite activities may have value in the promotion of psychological wellbeing. Given looming challenges to workplace productivity, further work-based interventional research targeting employee mental health is recommended.</p>

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Cheng C, Kogan A, Hin-man C. The effectiveness of a new, coping flexibility intervention as compared with a cognitive-behavioural intervention in managing work stress. *Work & Stress* 2012;26(3):272-289.

In typical stress management programmes, working adults acquire various coping skills for managing work stress. In addition to building coping skills, we propose the inclusion of a "meta skill" of coping flexibility, which helps individuals to recognize the distinctions among the coping requirements of diverse stressful events and to facilitate employment of appropriate skills for handling the specific demands of those events. Our study tested this proposal by comparing the efficacy of a new coping flexibility intervention with that of a commonly adopted cognitive-behavioural intervention in reducing depression. We randomly assigned 161 healthy Chinese working adults (55 men, 106 women, Mage = 32 years) to (1) attend a coping flexibility intervention for acquiring both coping skills and coping flexibility, (2) attend a cognitive-behavioural intervention for acquiring coping skills only, or (3) a waiting list to receive an intervention after the study had been completed. Participants were followed up four months later. Those who had attended the coping flexibility intervention reported the largest increase in levels of coping flexibility, and such an increase corresponded to a reduction in depression immediately and four months after the intervention. These results indicate the value of teaching individuals to adapt their coping strategies to specific requirements of stressful situations.

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Eisen KP, Allen GJ, Bollash M, Pescatello LS. Stress management in the workplace: A comparison of a computer-based and an in-person stress-management intervention. *Computers in Human Behavior*. 2008;24(2):486-496.

Work stress contributes significantly to corporate health costs. Outcomes from a stress-management intervention provided via an instructor led versus a computer-presented format were compared through a randomized, controlled design. Brief relaxation procedures presented in both formats led to highly significant reductions in immediately-reported stress. Stress reduction, however, was not associated with improvement in longer-term indices of workplace stress following completion of the intervention and at a one-month follow-up. Attrition was significantly higher in the computer-presentation format. Across both presentation formats, however, more frequent use of stress-reduction techniques was correlated significantly with greater reductions in stress indices (e.g., nervousness, social isolation, overall work stress) at follow-up.

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Lloyd J, Bond FW, Flaxman PE. The value of psychological flexibility: Examining psychological mechanisms

Little is known of the mechanisms by which interventions for burnout work. Employees of a UK government department were randomly assigned to either a worksite group-based CBT intervention called Acceptance and Commitment Therapy (ACT; n = 43), which aimed to increase participants' psychological flexibility, or a waiting list control group (n = 57). The ACT group received three half-day sessions of training spread over two and

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<p>underpinning a cognitive behavioural therapy intervention for burnout. <i>Work &amp; Stress</i>. 2013;27(2):181-99.</p>	<p>a half months. Data were collected at baseline (T1), at the beginning of the second (T2) and third (T3) workshops, and at six months' follow up (T4). Consistent with ACT theory, analyses revealed that, in comparison to the control group, a significant increase in psychological flexibility from T2 to T3 in the ACT group mediated the subsequent T2 to T4 decrease in emotional exhaustion in that group. Consistent with a theory of emotional burnout development, this significant decrease in emotional exhaustion from T2 to T4 in the ACT group appeared to prevent the significant T3 to T4 increase in depersonalization seen in the control group. Strain also decreased from T2 to T3 in the ACT group only, but no mediator of that improvement was identified. Implications for theory and practice in the fields of ACT and emotional burnout are discussed.</p>
<p>Mazaheri MA, Darani FM, Eslami AA. Effect of a brief stress management intervention on work-related stress in employees of Isfahan steel company, Iran. <i>Journal of Research in Medical Sciences</i>. 2012;17(1 SPL.1):S87-S92.</p>	<p>Background: Work-related stress has increased during recent years throughout the world. Studies demonstrate that Work-related stress can have a negative effect on the quality of life, productivity, and as a result lead to considerable socioeconomic consequences. The purpose of the current study was to examine the effects of a brief stress management intervention on work-related stress in employees of Isfahan Steel Company in Iran. Methods: A quasi-experimental design was used to compare the intervention group with the control group. Eighty-eight employees of Blast Furnaces were randomly allocated to intervention (n = 44) and control groups (n = 44) and completed Occupational Role Questionnaire before and after A brief three-session CB (Cognitive behavioral) stress management. Results: After the intervention significant differences were detected between the control and intervention groups in role overload, role insufficiency, role boundary, and responsibility but not in role ambiguity and physical environment. Conclusions: Results suggest that the brief stress management intervention can be considered as a preliminary education for employees to develop skills to cope with role overload, role insufficiency, role boundary, and responsibility, which are some of the factors of work-related stress.</p>
<p>Weingardt KR, Cucciare MA, Bellotti C, Lai WP. A randomized trial comparing two models of web-based</p>	<p>This study compared training outcomes obtained by 147 substance abuse counselors who completed eight self-paced online modules on cognitive-behavioral therapy (CBT) and attended a series of four weekly group supervision sessions using Web conferencing software. Participants were randomly assigned to two conditions that</p>

training in cognitive-behavioral therapy for substance abuse counselors. *Journal of Substance Abuse Treatment*. 2009;37(3):219-27.

systematically varied the degree to which they explicitly promoted adherence to the CBT protocol and the degree of control that they afforded participants over the sequence and relative emphasis of the training curriculum. Outcomes were assessed at baseline and immediately following training. Counselors in both conditions demonstrated similar improvements in CBT knowledge and self-efficacy. Counselors in the low-fidelity condition demonstrated greater improvement on one of three measures of job-related burnout when compared to the high-fidelity condition. The study concludes that it is feasible to implement a technology-based training intervention with a geographically diverse sample of practitioners, that two training conditions applied to these samples of real-world counselors do not produce statistically or clinically significant differences in knowledge or self-efficacy, and that further research is needed to evaluate how a flexible training model may influence clinician behavior and patient outcomes.

### Tabell 10: RCTer sortert etter behandlingstype – Avslapning (n=6)

#### Referanse

Alexopoulos E, Zisi M, Manola G, Darviri C. Short-term effects of a randomized controlled worksite relaxation intervention in Greece. *Ann Agric Environ Med*. 2014;21(2):382-7.

#### Sammendrag

The study aimed to evaluate the short-term benefits of simple relaxation techniques in white-collar employees. The study was a two-arm parallel group randomized controlled trial. 152 employees were randomly assigned to receive the 8-week programme (N=80) (relaxation breathing and progressive muscle relaxation, twice a day) or not (wait-list group N=72). Self-reported validated measures were used to evaluate perceived stress, health locus of control, job and lifestyle related variables. Saliva cortisol were also sampled and measured. Adjusted mean changes on outcomes were estimated by linear mixed model analysis. 127 employees were finally analyzed (68 in the intervention and 59 in the control group). Specific stress-related symptoms, psychological job demands and cortisol levels were found to be significantly decreased after 8-weeks in the intervention group. The result was probably affected by the general socio-economic condition during the study period. Cortisol levels were also significantly related with age, family

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situation, gender and sampling time. Simple relaxation training (diaphragmatic breathing and progressive muscle relaxation) could benefit employees and it is strongly proposed that these and other similar techniques should be tested in various labour settings.

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Elder C, Nidich S, Moriarty F, Nidich R. Effect of Transcendental Meditation on Employee Stress, Depression, and Burnout: A Randomized Controlled Study. <i>Perm J.</i> 2014;18(1):19-23.	Objective: To evaluate the effects of the Transcendental Meditation program on psychological distress and burnout among staff at a residential therapeutic school for students with severe behavioral problems. Design: A total of 40 secondary schoolteachers and support staff at the Bennington School in Vermont, a therapeutic school for children with behavioral problems, were randomly assigned to either practice of the Transcendental Meditation program or a wait-list control group. The Transcendental Meditation course was provided by certified instructors. Main outcome measures: Outcome measures were assessed at baseline and four months, and included perceived stress, depression, and burnout. A multivariate analysis of covariance was used to determine overall effects. Results: Analysis of the 4-month intervention data indicated a significant improvement in the main outcomes of the study resulting from practice of the Transcendental Meditation program compared with controls (Wilks LAMBDA (3,28) = 0.695; $p = 0.019$ ). Results of univariate F tests indicated a significant reduction of all main outcome measures: perceived stress ( $F(1,32) = 13.42$ ; $p < 0.001$ ); depression ( $F(1,32) = 6.92$ ; $p = 0.013$ ); and overall teacher burnout ( $F(1,32) = 6.18$ ; $p = 0.018$ ). Effect sizes ranged from 0.40 to 0.94. Conclusions: The Transcendental Meditation program was effective in reducing psychological distress in teachers and support staff working in a therapeutic school for students with behavioral problems. These findings have important implications for employees' job performance as well as their mental and physical health.
Hartfield N, Burton C, Rycroft-Malone J, Clarke G, Havenhand J, Khalsa SB, et al. Yoga for reducing perceived stress and back pain at work. <i>Occupational Medicine</i> 2012;62:606–612.	Aims: To determine the effectiveness of a yoga-based intervention for reducing perceived stress and back pain at work. Methods: Participants were recruited from a British local government authority and randomized into a yoga group who received one 50 min Dru Yoga session each week for 8 weeks and a 20 min DVD for home practice and a control group who received no intervention. Baseline and end-programme measurements of self-reported stress, back pain and psychological well-being were assessed with the Perceived Stress Scale, Roland Morris Disability Questionnaire and the Positive and Negative Affect Scale.

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Results: There were 37 participants in each group. Analysis of variance and multiple linear regression showed that in comparison to the control group, the yoga group reported significant reductions in perceived stress and back pain, and a substantial improvement in psychological well-being. When compared with the control group at the end of the programme, the yoga group scores were significantly lower for perceived stress, back pain, sadness and hostility, and substantially higher for feeling self-assured, attentive and serene. Conclusions: The results indicate that a workplace yoga intervention can reduce perceived stress and back pain and improve psychological well-being. Larger randomized controlled trials are needed to determine the broader efficacy of yoga for improving workplace productivity and reducing sickness absence.

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Kaspereen, D. Relaxation intervention for stress reduction among teachers and staff. *International Journal of Stress Management*. 2012; 19(3):238-250.

The present study examined how relaxation therapy (RT) can be effective in helping high school teachers and staff members reduce stress. Specifically, I examined the effectiveness of RT on overall perceived stress, perceived work stress, and life satisfaction. This quantitative, experimental study randomly assigned 54 teachers and staff members from a selected high school to an intervention relaxation group and a control group. RT was conducted once a week for 30-45 min per session for 4 consecutive weeks for the intervention group, and both groups were evaluated before and after the intervention. A mixed analysis of variance demonstrated that the intervention was effective. Overall stress and perceived work stress decreased and life satisfaction scores increased for the intervention group. No changes occurred on these three measures in the control group. Relaxation training programs could be one method to improve employee satisfaction.

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Oman D, Hedberg J, Thoresen CE. Passage meditation reduces perceived stress in health professionals: a randomized, controlled trial. *Journal of*

The authors evaluated an 8-week, 2-hr per week training for physicians, nurses, chaplains, and other health professionals using nonsectarian, spiritually based self-management tools based on passage meditation (E. Easwaran, 1978/1991). Participants were randomized to intervention (n = 27) or waiting list (n = 31). Pretest, posttest, and 8- and 19-week follow-up data were gathered on 8 measures, including perceived stress, burnout, mental health, and psychological well-being. Aggregated across examinations, beneficial treatment effects were observed on stress (p = .0013) and mental health (p = .03). Treatment effects

consulting and clinical psychology. on stress were mediated by adherence to practices ( $p = .05$ ). Stress reductions remained large at 19 weeks (84% of the pretest standard deviation,  $p = .006$ ). Evidence suggests this program reduces stress and may enhance mental health.

Sutarito AP, Wahab MN, Zin NM. The aim of this study was to examine the effect of resonant breathing biofeedback training for reducing stress among manufacturing operators. Resonant breathing biofeedback works by teaching people to recognize their involuntary heart rate variability and to control patterns of this physiological response. Thirty-six female operators from an electronic manufacturing factory were randomly assigned as the experimental group ( $n = 19$ ) and the control group ( $n = 17$ ). The participants of the intervention received 5 weekly sessions of biofeedback training. Physiological stress profiles and self-perceived depression, anxiety, and stress scale (DASS) were assessed at pre- and post-intervention. Results indicated that depression, anxiety, and stress significantly decreased after the training in the experimental group; they were supported by a significant increase in physiological measures. Overall, these results support the potential application of resonant biofeedback training to reduce negative emotional symptoms among industrial workers.

**Tabell 11: RCTer sortert etter behandlingstype – Mosjon og fysisk aktivitet (n=6)**

Referanse	Sammendrag
Bretland RJ, Thorsteinsson EB. Reducing workplace burnout: The relative benefits of cardiovascular and resistance exercise. PeerJ. 2015;2015(4).	Objectives: The global burden of burnout cost is in excess of \$300 billion annually. Locally, just under half of working Australians experience high levels of occupational burnout. Consequently, burnout interventions are paramount to organisational productivity. Exercise has the potential to provide a multilevel and cost effective burnout intervention. The current study aims to extend the literature by comparing cardiovascular with resistance exercise to assess their relative effectiveness against well-being, perceived stress, and burnout. Design: Participants were 49 (36 females and 13 males) previously inactive volunteers ranging in age



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from 19 to 68 that completed a four week exercise program of either cardiovascular, resistance, or no exercise (control). Randomised control trial design was employed. Method. Participants were measured against the Subjective Exercise Experience Scale, the Perceived Stress Scale, and the Maslach Burnout Inventory. Results: After four weeks of exercise participants had greater positive well-being and personal accomplishment, and concomitantly less psychological distress, perceived stress, and emotional exhaustion. Cardiovascular exercise was found to increase well-being and decrease psychological distress, perceived stress, and emotional exhaustion. Resistance training was noticeably effective in increasing well-being and personal accomplishment and to reduce perceived stress. The present findings revealed large effect sizes suggesting that exercise may be an effective treatment for burnout. However, given a small sample size further research needs to be conducted. Conclusion: Exercise has potential to be an effective burnout intervention. Different types of exercise may assist employees in different ways. Organisations wishing to proactively reduce burnout can do so by encouraging their employees to access regular exercise programs.

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Brox JI, Frooystein O. Health-related quality of life and sickness absence in community nursing home employees: Randomized controlled trial of physical exercise. *Occupational Medicine*. 2005;55(7):558-63.

Background: It is a common belief that physical exercise at the workplace decreases subjective health complaints and reduces sickness absence, but this is not supported by previous randomized studies. Aims: To evaluate the effectiveness of physical exercise at the workplace. Methods: One hundred and twenty-nine employees in a community-based nursing home for the elderly were randomized into physical exercise or control groups. A weekly exercise class consisting of light aerobic exercise, muscle strengthening and stretching was held for a 6-month period. The control group was told to continue their ordinary activity. The main outcome measures were aerobic fitness (UKK, walking test), health-related quality of life (COOP/WONCA) and sickness absence. Blinded assessments were carried out at baseline and following the 6-month intervention. Complete sickness absence data were collected from a community register for two comparable 7-month periods. Results: The average number of exercise sessions was 12 (0-26). Self-reported physical activity increased in the intervention group compared with the control group ( $P < 0.01$ ). Aerobic fitness improved in both groups ( $P < 0.01$ ). Mean sickness absence increased from 6.8 to 15.6 days in the exercise group and from 10.4 to 14.5 in the control group. No differences between groups were found for

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aerobic fitness, health-related quality of life or sickness absence. Conclusion: The intervention neither improved health-related quality of life nor reduced sickness absence.

Gram B, Holtermann A, Bultmann U, Sjogaard G, Sogaard K. Does an exercise intervention improving aerobic capacity among construction workers also improve musculoskeletal pain, work ability, productivity, perceived physical exertion, and sick leave?: a randomized controlled trial. *J Occup Environ Med.* 2012;54(12):1520-6.

**Objective:** To investigate whether an exercise intervention shown to increase aerobic capacity, would also lead to less musculoskeletal pain; improved work ability, productivity, and perceived physical exertion; and less sick leave. **Methods:** Sixty-seven construction workers were randomized into an exercise group training 3 x 20 minutes per week and a control group. Questionnaires and text messages were completed before and after the 12-week intervention. **Results:** No significant changes were found in musculoskeletal pain, work ability, productivity, perceived physical exertion, and sick leave with the intervention. Questionnaires and text messages provided similar results of pain and work ability. **Conclusions:** Although the intervention improved aerobic capacity, it was not successful in improving musculoskeletal pain and other work-related factors. A detectable improvement presumably requires a more multifaceted intervention, larger sample size, or longer follow-up. Text messages may be a convenient data-collection method in future studies.

Griffith JM, Hasley JP, Liu H, Severn DG, Conner LH, Adler LE. Qigong stress reduction in hospital staff. *J Altern Complement Med.* 2008;14(8):939-45.

**Objective:** The aim of this study was to investigate the effectiveness of a qigong training program in reducing stress in hospital staff. **Methods:** Subjects were randomly assigned to a 6-week intervention of either qigong practice (n = 16) or a waiting list (n = 21). The primary measure of stress was the Perceived Stress Scale. Secondary measures included the Short Form 36 (SF-36) quality-of-life measure and a 100-mm analog pain scale. **Results:** The qigong group demonstrated a statistically significant reduction of perceived stress compared to the control group (p = 0.02). On the Social Interaction subscale of the SF-36, the qigong group demonstrated greater improvement compared to controls (p = 0.04). Within-groups analyses demonstrated that the qigong group (p = 0.03), but not the control group, experienced a significant reduction of pain intensity. A regression analysis demonstrated an association between higher baseline stress levels and greater improvement within the qigong group (R(2) = 0.34; p = 0.02). **Conclusions:** These results suggest that short-term exposure to qigong was effective in reducing stress in hospital staff. Further studies are needed to evaluate the possible effectiveness of qigong in reducing pain and in improving quality of life.

<p>Nurminen E, Malmivaara A, Ilmarinen J, Ylostalo P, Mutanen P, Ahonen G, et al. Effectiveness of a worksite exercise program with respect to perceived work ability and sick leaves among women with physical work. <i>Scandinavian Journal of Work, Environment &amp; Health.</i> 2002;28(2):85-93.</p>	<p><b>Objectives:</b> This multicentered randomized controlled trial evaluated the effect of worksite exercise intervention on perceived work ability and sick leaves. <b>Methods:</b> Women (N = 260, mean age 40 years) engaged in physically demanding laundry work were individually randomized into an intervention (N = 133) or control (N = 127) group. Perceived work ability was assessed with questionnaires at 3, 8, 12, and 15 months. <b>Sick leave information</b> was obtained from the personnel administration. Follow-up attendance was 100% at 3 months but declined gradually to 90% by 15 months. Both the intervention and control subjects received a 30-minute feedback on their physical capacity from a physiotherapist and individual exercise prescription and counseling. The intervention subjects also participated in worksite exercise training guided by a physiotherapist. <b>Sixty-minute sessions (N = 26) were held once a week for 8 months.</b> About 50% of the intervention group participated in at least two-thirds of the sessions. <b>Results:</b> According to a dichotomized work ability index, at 12 months, workers with "good" or "excellent" work ability increased more in the intervention group than in the control group (11.0%, 95% CI 0.2-21.9), as did the health-related prognosis of work ability at 8 months (8.1%, 95% CI 0.5-16.3). There were no statistically significant differences between the two groups as regards job satisfaction, work ability index (including series of questions on 7 items), or sick leaves. <b>Conclusions:</b> Physical activity once a week at worksites improves the perceived work ability of women with physically demanding work only slightly. Perceived work ability and sick leaves cannot be affected very positively using single-component exercise intervention. Work ability promotion may need a more multiprofessional approach.</p>
<p>Palumbo MV, Wu G, Shaner-McRae H, Rambur B, McIntosh B. Tai Chi for older nurses: a workplace wellness pilot study. <i>Applied nursing research</i> : ANR. 2012;25(1):54-9.</p>	<p><b>Purpose:</b> The purpose of this pilot study was to assess the feasibility of a Tai Chi workplace wellness program as a cost effective way of improving physical and mental health, reducing work related stress, and improving work productivity among older nurses in a hospital setting <b>Design</b> A randomized control trial of two groups (control and Tai Chi group). <b>Design:</b> A randomized control trial of two groups (control and Tai Chi group). <b>Settings:</b> Northeastern academic medical center. <b>Subjects:</b> A convenience sample of eleven female nurses (mean age 54.4 years). <b>Intervention:</b> The Tai Chi group (n = 6) was asked to attend Tai Chi classes once a week offered at their worksite and to practice on their own for 10 minutes each day at least 4 days per</p>

week for 15 weeks. Controls (n = 5) received no intervention. Measures: SF-36 Health Survey, Nursing Stress Scale (NSS), Perceived Stress Scale (PSS), Sit-and-Reach test, Functional Reach test, the Work Limitations Questionnaire, workplace injury and unscheduled time off. Analysis: The two study groups were compared descriptively and changes across time in the intervention versus control were compared. Results: The Tai Chi group took no unscheduled time-off hours, whereas, the control group was absent 49 hours during the study period. There was also a 3% increase in work productivity and significant improvement in functional reach (p=0.03) compared to the control group. Other outcomes were not statistically significant. Conclusion: This pilot study demonstrates the feasibility of Tai Chi with older female workers as a cost effective wellness option in the workplace; thus encouraging replication with a larger sample. Methodological implications were also addressed.

**Tabell 12: RCTer sortert etter behandlingsstype – Acceptance and Commitment Therapy (ACT) (n=4)**

Referanse	Sammendrag
Biglan A, Layton GL, Jones LB, Hankins M, Rusby JC. The Value of Workshops on Psychological Flexibility for Early Childhood Special Education Staff. Topics Early Child Spec Educ. 2013;32(4).	High stress and burnout are common for early childhood special educators, contributing to high rates of attrition, diminished educational effectiveness, and high turnover. Acceptance and Commitment Therapy (ACT) is a promising approach for the prevention and treatment of a wide variety of problems. Using a randomized wait-list control design, this pilot study evaluated whether ACT workshops delivered to preschool teachers who serve children with developmental disabilities would improve stress-related problems of teachers (i.e., stress, depression, and burnout) and increase collegial support. At pretest, measures of experiential avoidance (EA) and mindful awareness (MA) showed significant relationships to reports of depression, stress, and burnout. The intervention reduced staff members' EA, increased teachers' MA and valued living (VL), and improved teachers' sense of efficacy. This suggests that ACT workshops can help influence factors affecting depression, stress, and burnout in an early childhood special education setting.

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Bond FW & Bunce D. Mediators of Change in Emotion-Focused and Problem-Focused Worksite Stress Management Interventions. *Journal of Occupational Health Psychology* 2000;5(1):156-163.

Ninety volunteers in a media organization were randomly allocated to an Acceptance and Commitment Therapy (ACT, n = 30) group that sought to enhance people's ability to cope with work-related strain, an Innovation Promotion Program (IPP, n = 30) that helped individuals to identify and then innovatively change causes of occupational strain, or a waitlist control group (n = 30). Both interventions lasted 9 hr, spread over 3 months. Improvements in mental health and work-related variables were found following both interventions. As hypothesized, changes in outcome variables in the ACT condition were mediated only by the acceptance of undesirable thoughts and feelings. In the IPP condition, outcome change was mediated only by attempts to modify stressors. Discussion focused on the importance of understanding the mechanisms underpinning change in occupational stress management interventions.

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Brinkborg H, Michanek J, Hesser H, Berglund G. Acceptance and commitment therapy for the treatment of stress among social workers: a randomized controlled trial. *Behav Res Ther.* 2011;49(6-7):389-98.

Chronic stress increases the risk of health problems and absenteeism, with negative consequences for individuals, organizations and society. The aim of the present study was to examine the effect of a brief stress management intervention based on the principles of Acceptance and Commitment Therapy (ACT) on stress and general mental health for Swedish social workers (n = 106) in a randomized, controlled trial. Participants were stratified according to stress level at baseline in order to examine whether initial stress level moderated the effect of the intervention. Two thirds of the participants had high stress levels at baseline (Perceived Stress Scale; score of >25). The results showed that the intervention significantly decreased levels of stress and burnout, and increased general mental health compared to a waiting list control. No statistically significant effects were, however, found for those with low levels of stress at baseline. Among participants with high stress, a substantial proportion (42%) reached criteria for clinically significant change. We concluded that the intervention successfully decreased stress and symptoms of burnout, and increased general mental health. Evidence is, thus, provided supporting ACT as brief, stress management intervention for social workers.

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Luoma JB, Vilaradaga JP. Improving therapist psychological flexibility while training

Acceptance and Commitment Therapy (ACT) training often includes experiential elements aimed at improving therapist psychological flexibility, yet the effects of ACT training on therapist psychological flexibility have yet to be evaluated. This pilot study examines the effects of experiential phone consultation as an

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acceptance and commitment therapy: A pilot study. *Cognitive Behaviour Therapy*. 2013;42(1):1-8.

adjunct to a standard continuing education workshop on psychological flexibility and burnout among therapists learning ACT. In this study, counselors taking a 2-day ACT workshop were randomly assigned to either six 30-min phone consultation sessions (n = 10) or no additional contact (n = 10). The results show that those in the consultation condition reported higher psychological flexibility at the 3-month follow-up compared to the workshop-only condition. Improvements in ACT knowledge, overall burnout, and personal accomplishment were found in both groups, independent of whether they received phone consultation, and this increase was maintained over time. In conclusion, ACT phone consultation contributed to counselor psychological flexibility above the workshop alone and appears to be feasible as a means to improve counselor psychological flexibility.

**Tabell 13: RCTer sortert etter behandlingsstype – Resilience training (n=3)**

Referanse	Sammendrag
Abbott J, Klein B, Hamilton C, Rosenthal A. The impact of online resilience training for sales managers on wellbeing and performance. <i>E-Journal of Applied Psychology</i> . 2009; 5(1):89-95.	In a randomised controlled trial, the internet-based ResilienceOnline (ROL) program was evaluated among lubricant sales managers at BP Australia. This program is designed to enhance resilience by teaching seven skills to help improve ability to cope with challenges and setbacks and maximise potential achievements. Sales managers were allocated to complete the ROL program (n = 26) or to be in a waitlist-control condition (n = 27) and were compared on pre- and post-intervention measures of happiness, quality of life, depression, anxiety, stress and work performance. Sales managers found the resilience training very enjoyable and believed it would improve their work performance and life skills. However, a high proportion of sales managers did not complete the ROL program and it was not found to significantly reduce distress or improve quality of life or work performance.

<p>Mealer M, Conrad D, Evans J, Jooste K, Solyntjes J, Rothbaum B, et al. Feasibility and acceptability of a resilience training program for intensive care unit nurses. <i>Am J Crit Care.</i> 2014;23(6):e97-105.</p> <p><b>Background:</b> The critical nursing shortage is particularly apparent in specialty areas such as intensive care units (ICUs). Some nurses develop resilient coping strategies and adapt to stressful work experiences, mitigating the development of common maladaptive psychological symptoms. <b>Objectives:</b> To determine if a multimodal resilience training program for ICU nurses was feasible to perform and acceptable to the study participants. <b>Methods:</b> In a randomized and controlled 12-week intervention study, treatment and control groups completed demographic questions and measures of resilience, anxiety, depression, post-traumatic stress disorder (PTSD), and burnout syndrome before and after the intervention. The intervention included a 2-day educational workshop, written exposure sessions, event-triggered counseling sessions, mindfulness-based stress reduction exercises, and a protocolized aerobic exercise regimen. Nurses in the intervention arm also completed satisfaction surveys for each component of the intervention. <b>Results:</b> This multimodal resilience training program was feasible to conduct and acceptable to ICU nurses. Both nurses randomized to the treatment group and nurses randomized to the control group showed a significant decrease in PTSD symptom score after the intervention. <b>Conclusions:</b> A multifaceted resilience training program for ICU nurses was both feasible and acceptable. A sufficiently powered, randomized clinical trial is needed to assess the effect of the intervention on improving individuals' level of resilience and improving psychological outcomes such as symptoms of anxiety, depression, burnout syndrome, and PTSD.</p>	<p>Sood A, Prasad K, Schroeder D, Varkey P. Stress management and resilience training among department of medicine faculty: A pilot randomized clinical trial. <i>Journal of General Internal Medicine.</i> 2011;26(8):858-61.</p> <p><b>Background:</b> Physician distress is common and related to numerous factors involving physicians' personal and professional lives. The present study was designed to assess the effect of a Stress Management and Resiliency Training (SMART) program for increasing resiliency and quality of life, and decreasing stress and anxiety among Department of Medicine (DOM) physicians at a tertiary care medical center. <b>Participants:</b> Forty DOM physicians were randomized in a wait-list controlled clinical trial to either the SMART intervention or a wait-list control group for 8 weeks. The intervention involved a single 90 min one-on-one training in the SMART program. Primary outcome measures assessed at baseline and week 8 included the Connor Davidson Resilience Scale (CDRS), Perceived Stress Scale (PSS), Smith Anxiety Scale (SAS) and Linear Analog Self Assessment Scale (LASA). <b>Results:</b> Thirty-two physicians completed the study. A</p>
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statistically significant improvement in resiliency, perceived stress, anxiety, and overall quality of life at 8 weeks was observed in the study arm compared to the wait-list control arm: CDRS: mean+/-SD change from baseline +9.8+/-9.6 vs. -0.8+/-8.2, t(30)=3.18, p=0.003; PSS: -5.4+/-8.1 vs. +2.2+/-6.1, t(30)=-2.76, p=0.010; SAS: -11.8+/-12.3 vs. +2.9+/-8.9, t(30)=-3.62, p=0.001; and LASA: +0.4+/-1.4 vs. -0.6+/-1.0, t(30)=2.29, p=0.029. Conclusions: A brief training to enhance resilience and decrease stress among physicians using the SMART program was feasible. Further, the intervention provided statistically significant improvement in resilience, stress, anxiety, and overall quality of life. In the future, larger clinical trials with longer followup and possibly wider dissemination of this intervention are warranted.

**Tabell 14: RCTer sortert etter behandlingstype – Massasje (n=3)**

Referanse	Sammendrag
<p>Day AL, Gillan L, Francis L, Kelloway EK, Natarajan M. Massage therapy in the workplace: reducing employee strain and blood pressure. <i>G Ital Med Lav Ergon.</i> 2009;31(3 Suppl B):B25-30.</p>	<p><b>Aim:</b> Assess the effects of workplace-based massage therapy on physiological and psychological outcomes. <b>Methods:</b> We used afield experiment in which 28 participants were randomly assigned into either an experimental (n = 14) or control (n = 14) group. The experimental group received weekly massage treatments at work for a four week period while the control group did not. <b>Results:</b> Both strain and blood pressure were significantly reduced during treatment for the experimental group but not for the control group. <b>Conclusions:</b> This study provides initial support for the effectiveness of workplace-based massage therapy as part of a comprehensive workplace health strategy.</p>
<p>Keller SR, Engen DJ, Bauer BA, Holmes DR, Jr., Rihal CS, Lennon RJ, et al. Feasibility and effectiveness of massage therapy</p>	<p>A pilot study was conducted to assess the feasibility and efficacy of massage therapy for cardiac catheterization laboratory staff. Staff members (N = 50) were randomly assigned to 5 or 10 weekly 30-min massages, followed by outcomes assessment. A control group (n = 10) receiving no massage therapy underwent comparable assessment. Visual analog scales, the t test, and the repeated measures model evaluated</p>



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for symptom relief in cardiac catheter laboratory staff: a pilot study. *Complementary Therapies in Clinical Practice*. 2012;18(1):4-9.

fatigue, pain, relaxation, stress/anxiety, tension/discomfort, and scheduling ease at baseline, 5 weeks, and 10 weeks. The Aickin separation test was used to assess feasibility of further research. Overall, 90% (337/375) of massage appointments were used. No significant effects were observed, but the Aickin separation test supported further research on massage therapy for fatigue, pain, relaxation, and tension/discomfort. Conducting massage therapy in the workplace is logistically feasible. Larger, longitudinal trials are warranted to better evaluate its effects on staff.

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Pan W-Y, Xu G-X, Zeng F-L, Hao X-C. Effects of Daoistic cognitive therapy and acupoint massotherapy on job burnout in employees. *Chinese Mental Health Journal*. 2010;24(9):711-5.

**Objective:** To explore the effects of Daoistic cognitive therapy and acupoint massotherapy on job burnout in employees. **Methods:** A total of 104 employees in three real estate companies were randomly divided into three intervention groups or a control group. The experimental group A, B and C received Daoistic cognitive therapy, acupoint massotherapy, and Daoistic cognitive therapy combined with acupoint massotherapy respectively for 4 weeks (twice a week). The control group received no treatment. All the subjects were assessed with the Chinese Maslach Burnout Inventory (CMBI) before and after treatment, and one month after treatment. **Results:** Sixty-nine subjects in three experimental groups completed the treatment. The drop-out rate was 11.5 % (9/78). After intervention, the scores of emotional exhaustion were lower in the experimental group A, B and C than in the control group ((22.12 +/- 3. 2 3), (21. 16 +/- 4. 01), (21. 13 +/- 3. 12) vs. (24.12 +/- 3.31), Ps < 0. 05). One month later, the scores of emotional exhaustion was lower in the experimental group C than in the control group ( 21. 14 +/- 3. 71) vs. (24. 08 +/- 4. 21), P < 0. 01 ). **But there was no significant difference in the scores of emotional exhaustion and depersonalization between the other experimental groups and the control group. Conclusion:** Both Daoistic cognitive therapy and acupoint massotherapy are effective on reducing emotional exhaustion, while Daoistic cognitive therapy combined with acupoint massotherapy may have better long term efficacy.

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**Tabell 15: RCTer sortert etter behandlingstypen – Stress-management tiltak (n=3)**

Referanse	Sammendrag
<p>Gundel, H.; Limm, H.; Heinmüller, B.; Marten-Mittag, B.; Nater, U. M.; Angerer, P. Stress Management Interventions at the Workplace Improve Perceived Stress Reactivity of Men at Higher Risk. <i>Gesundheitswesen</i> 2013.</p>	<p>A randomised controlled trial was conducted in a metal working plant. The primary endpoint was perceived stress reactivity (Stress Reactivity Scale, SRS). 174 participants were randomly assigned to a stress-management intervention (SMI) (IG) or a waiting control group (CG). N=174 participants (171 male) were recruited at t0, 154 (89%) were still taking part after one year (t1), 131 (76%) after 2 years. The SRS score decreased in both groups. The conducted SMI proved to be effective over both a 1- and a 2-year period.</p>
<p>Limm H, Gündel H, Heinmüller M, Marten-Mittag B, Nater UM, Siegrist J, et al. Stress management interventions in the workplace improve stress reactivity: a randomised controlled trial. <i>Occupational and environmental medicine</i>. 2011;68(2):126-33.</p>	<p>Objective: To examine the long-term effects of a stress management intervention (SMI) based on the effort-reward imbalance (ERI) model, on psychological and biological reactions to work stress. Methods: 174 lower or middle management employees (99% male) were randomly assigned to an intervention or a waiting control group. The programme comprised 24 × 45 min group sessions (2 full days followed by two 4 × 45 min sessions within the next 8 months) on individual work stress situations. The primary endpoint was perceived stress reactivity (Stress Reactivity Scale, SRS), while secondary endpoints were salivary cortisol and <math>\alpha</math>-amylase, anxiety and depression, and ERI. Assessments were repeated in 154 participants 1 year later. Results: SRS score decreased in both groups. A two-factor ANOVA with repeated measures showed a significant time × group effect (<math>F=5.932</math>; <math>p=0.016</math>) with the greater reduction in the intervention group. For SRS, the effect size (Cohen's d) after 1 year was <math>d=0.416</math> in the intervention and <math>d=0.166</math> in the control group. <math>\alpha</math>-Amylase as a measure of sympathetic nervous system activation, decreased more strongly in the intervention group (area under the daytime curve and daytime slope: time × group effect <math>p=0.076</math> and <math>p=0.075</math>). No difference was observed for cortisol. For depression, anxiety and ERI, improvements were higher in the intervention group but did not reach statistical significance. Conclusions:</p>

SMI based on work stress theory, is effective in reducing perceived stress reactivity and sympathetic activation in lower and middle management employees. Other mental health parameters and ERI show a tendency towards improvement. These beneficial effects are present 1 year later.

Logan MS, Ganster DC. An Experimental Evaluation of a Control Intervention to Alleviate Job-Related Stress. *Journal of Management*. 2005;31(1):90-107.

This article reports the results of a randomized field experiment that tested the effects of a control-enhancing stress intervention among unit managers of a trucking company. Individuals who managed geographically dispersed profit centers were randomly assigned to either an intervention group (N=34) or a no-intervention group (N=30). The intervention increased perceptions of control after 4 months, but only for those managers with supportive supervisors. In conjunction with supervisory support, the intervention produced improvements in job satisfaction, but not general well-being outcomes. The impact of the intervention and supervisory support on satisfaction was fully mediated by control perceptions.

**Tabell 16: RCTer sortert etter behandlingsstype – Ergonomi (n=2)**

Referanse	Sammendrag
<p>Haukka E, Pehkonen I, Leino-Arjas P, Viikari-Juntura E, Takala EP, Malmivaara A, et al. Effect of a participatory ergonomics intervention on psychosocial factors at work in a randomised controlled trial. <i>Occup Environ Med</i>. 2010;67(3):170-7.</p>	<p>Objectives: To study the effect of a participatory ergonomics intervention on psychosocial factors among kitchen workers. Design: A cluster randomised controlled trial. Setting: Four cities in Finland, 2002-2005. Participants: 504 workers in 119 municipal kitchens. Intervention: Kitchens were randomised to intervention (n=59) and control (n=60) groups. The intervention lasted 11-14 months and was based on the workers' active participation in work analysis, planning and implementing the ergonomic changes aimed at decreasing the physical and mental workload. Main outcome measures: Mental stress, mental strenuousness of work, hurry, job satisfaction, job control, skill discretion, co-worker relationships and supervisor support. Data were collected by questionnaire at baseline, at the end of the intervention, and at a 12-month follow-up (PI(12)). Results: At the end of the intervention, the OR of job dissatisfaction for</p>

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the intervention group as compared with the control group was 3.0 (95% CI 1.1 to 8.5), of mental stress 2.3 (1.2 to 4.7) and of poor co-worker relationships 2.3 (1.0 to 5.2). At the PI(12), the OR of job dissatisfaction was 3.0 (1.2 to 7.8). Analysis of the independent and joint effects of the intervention and unconnected organisational reforms showed that adverse changes were accentuated among those with exposure to both. Conclusions: No favourable effects on psychosocial factors at work were found. The adverse changes were due to a joint effect of the intervention and the unconnected organisational reforms. The findings do not support the usefulness of this kind of intervention in changing unsatisfactory psychosocial working conditions.

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Eklöf M & Hagberg M. Are simple feedback interventions involving workplace data associated with better working environment and health? A cluster randomized controlled study among Swedish VDU workers. *Appl Ergon.* 2006;37(2):201-10.

Objective: To test whether feedback and discussion of ergonomic and psychosocial working environment data during 1 short session with individual, groups, or supervisors of VDU workers had effects on (1) the quality of implemented modifications in workplace design, working technique, or psychosocial aspects; (2) psychological demands, decision latitude, and social support; (3) comfort during computer work, emotional stress, and prevalence of musculoskeletal symptoms or eye discomfort. Methods: Thirty-six workgroups from 9 organizations were randomized to 3 feedback conditions (individual, workgroup, supervisor) or control. Follow-up was 6 months after intervention. Questionnaire data aggregated on the workgroup level were used. Results: Effect (positive) on social support was indicated from feedback to supervisors. Conclusion: Feedback and discussion of ergonomic and psychosocial working environment data with supervisors of white-collar VDU workers may have positive effect on social support measured as a group characteristic. Sources of potential bias are discussed.

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**Tabell 17: RCTer sortert etter behandlingsstype – Andre (n=16)**

Referanse	Sammendrag
<p>Cheng ST, Tsui PK, Lam JH. Improving mental health in health care practitioners: randomized controlled trial of a gratitude intervention. <i>J Consult Clin Psychol</i>. 2015;83(1):177-86.</p>	<p><b>Objective:</b> Chronic occupational stress is common among health care practitioners, with potential impacts on personal mental health and staff turnover. This study investigated whether directing practitioners' attention to thankful events in work could reduce stress and depressive symptoms. <b>Method:</b> A double-blind randomized controlled trial was conducted in 5 public hospitals with follow-up to 3 months posttreatment. One hundred two practitioners were randomly assigned into 3 conditions: gratitude, hassle, and nil-treatment. Those with scheduled long leaves were excluded. Participants in the gratitude and hassle group wrote work-related gratitude and hassle diaries respectively twice a week for 4 consecutive weeks. A no-diary group served as control. Depressive symptoms (primary outcome) and perceived stress (secondary outcome) were collected at baseline, posttreatment, and 3-month follow-up. Intent-to-treat analyses were performed with mixed-effects regression. <b>Results:</b> Significant Treatment x Time interaction effects were found for the gratitude intervention, whether it was compared with control or hassle; the general pattern was a decline in stress and depressive symptoms over time, but the rate of decline became less pronounced as time progressed. Hassle and control were basically indistinct from each other. Relative to control, the gratitude group reported lower depressive symptoms (-1.50 points; 95% CI (-2.98, -0.01); d = -0.49) and perceived stress (-2.65 points; 95% CI (-4.00, -1.30); d = -0.95) at follow-up. <b>Results for the comparison between gratitude and hassle were similar. Conclusion:</b> Taking stock of thankful events is an effective approach to reduce stress and depressive symptoms among health care practitioners.</p>
<p>Duijts SF, Kant I, van den Brandt PA, Swaen GM. Effectiveness of a preventive coaching intervention for employees at risk for sickness absence due to psychosocial health</p>	<p><b>Objective:</b> To assess the effectiveness of a preventive coaching intervention on sickness absence due to psychosocial health complaints and on general wellbeing of employees. <b>Methods:</b> Employees at risk for sickness absence were identified and randomized. The intervention group received the preventive coaching program; the control group received usual care. <b>Primary outcome measure of the trial is sickness ab-</b></p>

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complaints: results of a randomized controlled trial. *J Occup Environ Med.* 2008;50(7):765-76.

sence due to psychosocial health complaints; secondary outcome measures are related to general wellbeing, such as psychological distress, fatigue, and coping. Results: No effect of coaching on self-reported sickness absence due to psychosocial health complaints was found. The intervention group reported statistically significant improved health, declined psychological distress, less burnout, less need for recovery, and an increased satisfaction with life. Conclusions: This study shows that the coaching intervention primarily has an effect on general wellbeing of employees.

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Gunasingam N, Burns K, Edwards J, Dinh M, Walton M. Reducing stress and burnout in junior doctors: the impact of debriefing sessions. *Postgrad Med J.* 2015;91(1074):182-7.

Internship and residency are difficult times with novice practitioners facing new challenges and stressors. Junior doctors may experience burnout, a syndrome that encompasses three dimensions: emotional exhaustion, depersonalisation and reduced personal accomplishment. While there is some existing literature on the prevalence of burnout in junior doctors, there are few studies on interventional strategies. This study aimed to examine the prevalence of burnout in a cohort of junior doctors and whether debriefing sessions reduced levels of burnout. A prospective randomised controlled study of a convenience sample of postgraduate year 1 doctors in a single hospital was undertaken during a rotation term in 2011. All participants completed a questionnaire using a validated tool, the Maslach Burnout Inventory, to determine the prevalence of burnout. They were then randomly assigned to a group who were to receive four debriefing sessions over 2 months, or, to the control group, who had no debriefing sessions. Quantitative and qualitative analyses were conducted. Thirty-one postgraduate year 1 doctors participated in the study, with 13 being assigned to the group receiving debriefing sessions and 18 assigned to the control group. At baseline, 21/31 (68%) participants displayed evidence of burnout in at least one domain as measured by the Maslach Burnout Inventory. Burnout was significantly higher in women. There was no significant difference in burnout scores with debriefing. The intervention was well received with 11/18 (61%) suggesting they would recommend the strategy to future junior doctors and 16/18 (89%) found that the sessions were a source of emotional and social support. Burnout is prevalent among postgraduate year 1 doctors, and they value the emotional and social support from attending debriefing sessions. A larger study is required to determine if debriefing can reduce the incidence of burnout in junior doctors.

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Helms-Lorenz M, Bert S, van de Grift W. First year effects of induction arrangements on beginning teachers' psychological processes. *Eur J Psychol Educ.* 2013;28:1265-1287.

This study examined the (1) effects of a supportive program (i.e., induction arrangement) on beginning teachers' (BTs') psychological processes after a period of 1 year and (2) psychological paths of influence of the arrangement. Participants (56 Dutch secondary schools with 143 BTs) were randomly allocated to two conditions. Experimental schools provided a carefully developed and implemented induction arrangement to their BTs. Control schools followed their regular (induction) arrangements. BTs perceived stress causes, self-efficacy, and job strain were measured with a pre-test post-test design. Condition effects were examined by means of independent sample t tests. The perception of the provided support was measured, and its psychological path of influence was investigated by conducting standard multiple regression analyses. BTs in the experimental condition indicated that they (1) received more support, (2) experienced fewer stress causes (i.e., lack of learning opportunities and lack of regulating possibilities), and (3) experienced more self-efficacy in the classroom at the end of the school year. Furthermore, fewer BTs left the experimental schools after 1 year. Reducing BTs' workload and supporting their professional development are the most influential induction arrangement elements provided in this study. Providing carefully developed and implemented induction arrangements may soften the harshness of the context in which BTs operate, by decreasing their perceived stress causes and increasing their level of self-efficacy in the classroom. This, in turn, could positively affect BTs' decision to stay in the teaching profession and might, therefore, add to a solution to the teacher shortage problem.

Kant Ij, Jansen NWH, van Amelsvoort LGPM, van Leusden R, Berkouwer A. Structured Early Consultation with the Occupational Physician Reduces Sickness Absence Among Office Workers at High Risk for Long-Term Sickness Absence: a

Objective: To examine the efficacy of structured early consultation among employees at high risk for future long-term sickness absence, in the prevention and/or reduction of sickness absence. The focus of the experiment was the timing of the intervention, that is, treatment before sickness absence actually occurs. Methods: In the current prospective randomized controlled trial (RCT), employees at high risk for long-term sickness absence were selected based on responses to a 34-item screening questionnaire including demographic, workplace, health and psychosocial factors associated with long-term sickness absence (>28 days). A total of 299 subjects at risk for future long-term sickness absence were randomized in an experimental group (n = 147) or in a control group (n = 152). Subjects in the experimental group

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Randomized Controlled Trial. *Journal of Occupational Rehabilitation*. 2008;18(1):79-86.

received a structured early consult with their occupational physician (OP), in some cases followed by targeted intervention. The control group received care as usual. Sickness absence was assessed objectively through record linkage with the company registers on sickness absence over a 1 year follow-up period. Results: Modified intention-to-treat analysis revealed substantial and statistically significant differences ( $p = 0.007$ ) in total sickness absence duration over 1 year follow-up between the experimental (mean 18.98; SD 29.50) and control group (mean 31.13; SD 55.47). Per-protocol analysis additionally showed that the proportion of long-term sickness absence spells ( $>28$  days) over 1 year follow-up was significantly ( $p = 0.048$ ) lower in the experimental (9.1%) versus control group (18.3%). Conclusions: Structured early consultation with the OP among employees at high risk for future long-term sickness absence is successful in reducing total sickness absence.

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Karatzias T, Chouliara Z, Power K, Kilfedder C. Predicting outcome of face-to-face and telephone counselling for occupational stress, *British Journal of Guidance & Counselling*. 2011;39:3, 197-208.

The aim of the present study was to investigate predictors of outcome of counselling, using mean change scores of three outcome measures, at treatment completion and at 4-months follow-up, in a randomised trial of face-to-face ( $n = 30$ ) versus telephone counselling ( $n = 30$ ) for occupational stress. Factors associated with treatment outcome were investigated using regression analyses with the mean change scores in three self-rated measures, including the Clinical Outcomes in Routine Evaluation Scale (CORE), the Perceived Stress Scale (PSS) and the General Health Questionnaire (GHQ) from pre- to post-intervention and pre-intervention to 4-months follow-up as the dependent variables and demographics, intervention-related and personality measures as independent variables. Irrespective of outcome measures and assessment points, it was found that the more severe the baseline symptomatology, the higher the degree of change was achieved. Clinical relevance of the present results and directions for future research are discussed.

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Kawakami N, Takao S, Kobayashi Y, Tsutsumi A. Effects of web-based supervisor training on job stressors and psychological distress among

Using workplaces as a unit for randomization, a randomized controlled trial was conducted to determine the effects of web-based supervisor training on the subject of worksite mental health on job stressors, supervisor support and psychological distress among subordinate workers. A total of eight workplaces of



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workers: a workplace-based randomized controlled trial. *J Occup Health.* 2006;48(1):28-34.

a sales and service company were randomly assigned to either training workplaces or non-training workplaces. Supervisors (n=23) at the training workplaces participated in web-based self-learning training on worksite mental health; supervisors (n=23) at the non-training workplaces did not. A total of 81 subordinate workers under the trained supervisors (the intervention group) and 108 subordinate workers under the non-trained supervisors (the control group) completed the Brief Job Stress Questionnaire (BJSQ) at baseline and at a three-month follow-up. No significant intervention effect was observed for any scale of the BJSQ measuring job stressors, supervisor or coworker support, or psychological distress among subordinate workers ( $p < 0.05$ ). The item score of work autonomy changed very little in the intervention group, while it decreased in the control group during the follow-up period, yielding a significant intervention effect ( $p = 0.02$ ). The item score for a friendly atmosphere in the workplace increased in the intervention group, while the score remained stable in the control group, yielding a significant intervention effect ( $p = 0.02$ ). While the present study failed to show any clear effect of the web-based training of supervisors on reduction of job stressors, it may be useful for maintaining worker autonomy and improving the friendliness of the worksite atmosphere.

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Kilfedder C, Power K, Karatzias T, McCafferty A, Niven K, Chouliara Z, et al. A randomized trial of face-to-face counselling versus telephone counselling versus bibliotherapy for occupational stress. *Psychology and Psychotherapy: Theory, Research and Practice.* 2010;83(3):223-42.

**Objective:** The aim of the present study was to compare the effectiveness and acceptability of three interventions for occupational stress. **Methods/design:** A total of 90 National Health Service employees were randomized to face-to-face counselling or telephone counselling or bibliotherapy. Outcomes were assessed at post-intervention and 4-month follow-up. **Clinical Outcomes in Routine Evaluation (CORE), General Health Questionnaire (GHQ-12), and Perceived Stress Scale (PSS-10)** were used to evaluate intervention outcomes. An intention-to-treat analyses was performed. **Results:** Repeated measures analysis revealed significant time effects on all measures with the exception of CORE Risk. No significant group effects were detected on all outcome measures. No time by group significant interaction effects were detected on any of the outcome measures with the exception of CORE Functioning and GHQ total. **With regard to acceptability of interventions, participants expressed a preference for face-to-face counselling over the other two modalities. Conclusions:** Overall, it was concluded that the three intervention

groups are equally effective. Given that bibliotherapy is the least costly of the three, results from the present study might be considered in relation to a stepped care approach to occupational stress management with bibliotherapy as the first line of intervention, followed by telephone and face-to-face counseling as required.

Lucas BP, Trick WE, Evans AT, Weinstein RA, Varkey A, Smith J, et al. Four-vs-two-week rotations for medicine ward attending physicians: A cluster randomized cross-over trial. *Journal of General Internal Medicine*. 2011;26:S333.

**Background:** Rotations for medicine ward attending physicians have become shorter. Whereas month-long rotations had been standard, two week rotations are now the norm. One driver for this change is the perception that shorter rotations improve physicians' work-life balance. Yet the psychological impact of rotation duration on physicians is not known. Nor is it known how rotation duration impacts patients or trainees. **Methods:** We conducted an unblinded, cluster randomized crossover trial on the general medicine inpatient teaching service of a 450-bed public hospital during the 2009 academic year. We allocated random sequences of four- and two-week rotations to attending physicians who were scheduled for at least 6 weeks of inpatient service. All patients who were discharged from enrolled physicians' ward services throughout the study period constituted clusters, and each cluster comprised a random series of four- and two-week cluster-periods. The primary outcome was unplanned visits to our health care system within 30 days of discharge. Secondary outcomes were unplanned readmissions to our hospital within 30 days of discharge (a subset of our primary outcome) and length of hospital stay. In addition, attending physician performance and work-life balance were measured on the last day of each rotation with confidential questionnaires. Resident questionnaires comprised 5 domains of attending physician performance: patient care, professionalism, clinical judgment, teaching skills, and feedback of resident performance. Attending physician questionnaires comprised 3 domains of work-life balance: life stress using 4 items from the Cohen Perceived Stress Scale; emotional exhaustion using 9 items from the Human Services Survey of the Maslach Burnout Inventory; and perceived control in the workplace using 8 items from the Clinic Provider Survey of the Physician Worklife Study II. We generated summary scores for each questionnaire by transforming the sum of domain-specific z-scores in to a single z-score; 1 z-score unit is equal to 1 standard deviation. We constructed multilevel models for each outcome, treating attending physician and the interaction term attending physician-by-cluster-period as random effects.

Models were hierarchically three-tiered with either patients or questionnaires (level 1) nested within cluster-periods (level 2) that were nested within attending physicians (level 3). Results: Attending physicians (n=62) completed a median of 3 rotations (range 2 to 8) per physician. Median duration between rotations was 10 weeks (interquartile range 4 to 14 weeks). Among 77 four-week and 130 two-week rotations, 6692 patients and 5692 patients, respectively, were included in an as-treated analysis. The unadjusted proportions of patients with 30-day unplanned visits was the same among patients from either four- or two-week rotations (25 %, 95% CI 24 to 26%). The similarity of these proportions did not change in multilevel models that adjusted for clustering and allowed direct within physician comparisons of four-week vs two-week rotations (odds ratio (OR) 0.98, 95% CI 0.90 to 1.07). Secondary outcomes of 30-day readmissions (OR 1.0, 95% CI 0.88 to 1.12), length of stay (0% change, 95% CI -4 to 3%), and residents' perception of attending physicians' performance (+ 0.01 SD, 95% CI -0.06 to +0.04 SD) were also not statistically different between four- and two-week rotations. Attending physicians' reported work-life balance, however, worsened with four-week rotations (-0.4 SD, 95% CI -0.6 to -0.3 SD); this effect remained after adding attending physician characteristics to the multilevel model. Whereas years of experience, sex, number of dependents, and the interaction term sex-by-number of dependents had no statistical association with work-life balance, being a hospitalist (0.7 SD 95% CI 0.3 to 1.0) and a graduate of an international medical school (0.6SD95%CI 0.2 to 1.0) were associated with better work-life balance. Conclusion: Shorter attending physician ward rotations did not affect 30-day unplanned revisits, length of hospital stay, or evaluations of attending physicians' performance. Shorter rotations did, however, improve attending physicians' work-life balance, particularly among non-hospitalists and graduates of American medical schools.

Martins AE, Davenport MC, Del Valle MP, Di Lalla S, Domínguez P, Ormando L, et al. Impact of a brief intervention on the burnout levels of

Objectives: To estimate burnout prevalence among pediatric residents and to evaluate the impact of a brief intervention aimed at controlling burnout. Methods: A randomized controlled trial was conducted on 74 pediatric residents. The Maslach Burnout Inventory was administered to all subjects, and demographic information was gathered (age, gender, children, cohabitants, and residency year). The experimental group (n = 37) participated in self-care workshops over the course of 2 months, and the control

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pediatric residents. *Jornal de pediatria*. 2011;87(6):493-8.

group (n = 37) did not receive any intervention. After the intervention, the Maslach Burnout Inventory was administered again to all participants. All potential predictors of burnout were included in a logistic regression model. The efficacy of the intervention was evaluated by the chi-square test. P values < 0.05 were considered significant. Results: The burnout prevalence among pediatric residents was 66%. After controlling for age, gender, children, and cohabitants, the prevalence of burnout was significantly higher among third-year residents (odds ratio = 11.8; 95% confidence interval 2.3-59.3; p = 0.003). There were no significant differences regarding burnout prevalence in the experimental group between the baseline and post-intervention periods (p = 0.8) or between the two groups after intervention (p = 0.8). The only difference observed was an improvement regarding "depersonalization" in the experimental group (p = 0.031). Conclusions: The burnout prevalence among pediatric residents was 66% and was higher among third-year residents. A brief intervention was not effective in reducing burnout prevalence, despite the achievement of an improvement in "depersonalization."

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Muller A, Heiden B, Herbig B, Poppe F, Angerer P. Improving Well-Being at Work: A Randomized Controlled Intervention Based on Selection, Optimization, and Compensation. *Journal of Occupational Health Psychology*. 2015;No Pagination Specified.

This study aimed to develop, implement, and evaluate an occupational health intervention that is based on the theoretical model of selection, optimization, and compensation (SOC). We conducted a stratified randomized controlled intervention with 70 nurses of a community hospital in Germany (94% women; mean age 43.7 years). Altogether, the training consisted of 6 sessions (16.5 hours) over a period of 9 months. The training took place in groups of 6-8 employees. Participants were familiarized with the SOC model and developed and implemented a personal project based on SOC to cope effectively with 1 important job demand or to activate a job resource. Consistent with our hypotheses, we observed a meaningful trend that the proposed SOC training enhanced mental well-being, particularly in employees with a strong commitment to the intervention. While highly committed training participants reported higher levels of job control at follow-up, the effects were not statistically significant. Additional analyses of moderation effects showed that the training is particularly effective to enhance mental well-being when job control is low. Contrary to our assumptions, perceived work ability was not improved by the training. Our study provides first indications that SOC training might be a promising approach to occupational health and stress prevention. Moreover, it identifies critical success factors of occupational interventions

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based on SOC. However, additional studies are needed to corroborate the effectiveness of SOC trainings in the occupational contexts.

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Shiple P, Baranski JV. Police officer performance under stress: A pilot study on the effects of visuo-motor behavior rehearsal. *International Journal of Stress Management*. 2002;9(2):71-80.

Examined the effectiveness of visuo-motor behavior rehearsal (VMBR) as a method of reducing acute stress and improving police officer performance. 54 recruits (mean age 27 yrs) were randomly assigned to a treatment and a non-treatment condition prior to undergoing a highly stressful, critical event training scenario involving "live fire". A manipulation check showed that participants who received VMBR displayed significantly lower scores on the cognitive state anxiety subscale of the Competitive State Anxiety Inventory-2; somatic state anxiety and self-confidence were unaffected by the VMBR treatment. Most importantly participants in the VMBR training condition displayed better performance on the critical event scenario, including significantly more assailable "hits". The findings are discussed with respect to the four-stage model of stress and human performance of E. Salas and colleagues (1986).

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Torsney KM. Empowering lower status workers in long-term care: The impact of including CNAs and LPNs in interdisciplinary team meetings on their levels of turnover, stress, coping, and self-esteem: Columbia University; 2000.

The purpose of this study was to investigate the impact of including certified nursing assistants (CNAs) and licensed practical nurses (LPNs) in interdisciplinary team meetings at a long-term care facility on the variables of stress, turnover, coping, and self-esteem. Researchers examining organizational effectiveness and management in long-term care have suggested that a participatory collaborative approach to management leads to greater employee satisfaction, performance, less stress and burnout, and improved patient care. The hypotheses tested in this study were that when CNAs and LPNs were included in interdisciplinary team meetings they would have less stress, greater self-esteem, more task-focused coping, and less turnover than those who did not participate in treatment team meetings. Stress was measured by the Care Provider Questionnaire (Mahairas, Oleassek, Bristol, Gurule, Kovacs, Peters, Uber, Joyce, Robinson, & Fagan, 1990). Self-esteem was assessed by the Global Self-Esteem Scale (Rosenberg, 1965) and coping was measured by the Multidimensionality of Coping Scale (Endler & Parker, 1990). Turnover was measured through examination of the numbers of individuals leaving the long-term care facility while the study was being conducted. Subjects were randomly assigned to conditions of participation in interdisciplinary treatment team meetings or to a control group. All subjects completed pre-

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test and post-test assessments. The results were analyzed through analyses of covariance, with the pre-test serving as the covariate. Within and between group differences were also evaluated through analysis of variance tests. Correlations between the instruments were assessed through Kendall correlation coefficients. In addition, turnover was examined with Chi Square tests. The statistical analyses suggest that when CNAs and LPNs participate in treatment team meetings, although their levels of self-esteem, stress, and turnover do not significantly change, the amount of task centered coping which they employ is affected by the status of the worker (e.g. CNA or LPN). That is, the impact of being included in a treatment team meeting was more powerful for the lower status worker (CNA) than it was for the worker who had more status (LPN). Several factors such as small sample size, few behavioral measures, and the lack of a treatment control group may compromise the strength of the study. However, several units at the long-term care facility noted that the inclusion of lower status workers led to improved patient care and that they would continue to include CNAs and LPNs in their team meetings in the future. It is suggested that further investigation of this subject examine the variables of unit atmosphere, management style, and leadership style.

West CP, Dyrbye L, Satele D, Shanafelt T. A randomized controlled trial evaluating the effect of compass (colleagues meeting to promote and sustain satisfaction) small group sessions on physician well-being, meaning, and job satisfaction. *Journal of General Internal Medicine*. 2015;30:S89.

Background: Burnout and low job satisfaction are all too common among physicians. However, studies evaluating interventions to address these issues have been limited. Application of validated instruments has been uncommon, and prior studies have been largely observational. A recent randomized study of facilitated physician meetings (West CP et al., *JAMA Intern Med* 2014;174(4):527-33) demonstrated improvement in meaning and reduced depersonalization in the intervention arm, but it is unknown whether less intensive and less structured forms of this intervention would also be beneficial for physician well-being. Methods: We conducted a randomized controlled trial of a 6-month intervention involving 12 biweekly one-hour meetings of self-formed groups of 6-8 academic internal medicine physicians, termed COMPASS Groups (Colleagues Meeting to Promote And Sustain Satisfaction). Each intervention session consisted of a brief 15-min group discussion of an assigned topic relevant to the physician experience and drawn from prior physician well-being literature, followed by 45 min for a shared lunch or other group activity as determined by each group itself. Each participant received \$20 per session for

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meal expenses. Control participants were wait-listed to complete their own small groups after the initial 6 months to ensure equity in study reimbursement opportunities. The small group topics included work-life balance, medical mistakes, meaning in work, and resiliency, among other topics relating to the physician experience. Participants completed surveys at baseline and then quarterly. Surveys included linear analog self-assessment of overall quality of life (QOL), the Maslach Burnout Inventory, the 2-item PRIME-MD depression screen, the Empowerment at Work Scale assessing meaning from work, the Social Isolation PROMIS instrument, and the Physician Job Satisfaction Scale. The trial groups were compared using generalized estimating equations for repeated measures. Results: Of 125 study volunteers, 64 and 61 participants were randomized to the intervention and control arms of the study, respectively. At baseline, no statistically significant differences were observed between the study groups for any relevant outcome variables). Preliminary data also suggest sustained benefits up to 6 months after the end of the study intervention period for each outcome. Conclusions: Study participants engaged in biweekly meetings with colleagues supported by modest study funds experienced statistically and clinically significant improvements in multiple domains of well-being and satisfaction, including overall QOL, the depersonalization and personal accomplishment domains of burnout, meaning from work, social isolation, and job satisfaction. These results suggest that a relatively non-intensive intervention involving self-selected physician small group meetings can be effective in promoting physician well-being, meaning from work, and job satisfaction.

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Wilson SA, Tinker RH, Becker LA,  
Logan CR. Stress management with  
law enforcement personnel: A  
controlled outcome study of EMDR  
versus a traditional stress  
management program.

Eye Movement Desensitization and Reprocessing (EMDR) has been shown to be effective for treating posttraumatic stress disorder (PTSD), but its efficacy as a stress management tool for normal individuals in highly stressful occupations has not been demonstrated. 62 police officers (aged 23-53 yrs old) were randomly assigned to either EMDR or a standard stress management program (SMP), each consisting of 6 hours of individualized contact. At completion, officers in the EMDR condition provided lower ratings on measures of PTSD symptoms, subjective stress, job stress, and anger; and higher marital satisfaction ratings than those in SMP. The effects of EMDR were maintained at the 6-month follow-up, indicating

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International Journal of Stress Management, 2001;8(3):179-200. enduring gains from a relatively brief treatment regimen for this subclinical sample of officers who were experiencing some level of stress from their job.

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