

Effekt av omsorgstiltak i kommunene for personer med kronisk sykdom

Notat fra Kunnskapssenteret
Systematisk litteratursøk
med sortering
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Nasjonalt kunnskapssenter for helsetjenesten fremskaffer og formidler kunnskap om effekt av metoder, virkemidler og tiltak og om kvalitet innen alle deler av helsetjenesten. Målet er å bidra til gode beslutninger slik at brukerne får best mulig helsetjenester. Kunnskapssenteret er formelt et forvaltningsorgan under Helse- direktoratet, men har ingen myndighetsfunksjoner og kan ikke instrueres i faglige spørsmål.

Nasjonalt kunnskapssenter for helsetjenesten
Oslo, juni 2013

Hovedfunn

Nasjonalt kunnskapssenter for helsetjenesten har gjort et systematisk litteratursøk med sortering av referanser om effekt av forskjellige omsorgstiltak i kommunene for personer med kronisk sykdom.

Vi utarbeidet søkestrategi for et systematisk litteratursøk. Det ble søkt i medisinske databaser etter systematiske oversikter i januar og februar 2013. To forskere gikk uavhengig av hverandere gjennom identifiserte referanser og vurderte relevans i forhold til inklusjonskriteriene.

Resultater

- Vi identifiserte totalt 2542 referanser.
- Av disse er 32 inkludert.

Tittel:

Effekt av omsorgstiltak i kommunene for personer med kronisk sykdom, systematisk litteratursøk med sortering

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 Tromsø og Ski kommune

Når ble litteratursøket utført?

Søk etter studier ble avsluttet i februar 2013.

Key messages

The Norwegian Knowledge Centre for the Health Services was commissioned to make a systematic reference list of the available research about the effect of care management interventions for people with chronic illness in the community.

We worked out a search strategy for a systematic literature search and searched for systematic reviews in medical databases in February 2013. Two authors independently assessed reviews according to the inclusion criteria.

Resultater

- We identified 2542 references.
- 32 of these are included.

Title:

Effect of care management for people with chronic illness in the community

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:

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Updated:

Last search for studies: February 2013.

Innhold

HOVEDFUNN	2
KEY MESSAGES	3
INNHold	4
FORORD	5
INNLEDNING	6
Styrker og svakheter ved litteratursøk med sortering	6
Begrunnelse for valg av søkestrategi	6
Problemstilling	7
METODE	8
Litteratursøking	8
Inklusjonskriterier	8
Artikkelutvelging	9
RESULTAT	10
Resultat av søk	10
Resultat av sorteringen	11
Beskrivelse av inkluderte oversikter	11
VEDLEGG	21
Vedlegg 1 Søkestrategi	21
Vedlegg 2 Sammendrag inkluderte oversikter	28

Forord

Nasjonalt kunnskapssenter for helsetjenesten fikk i oppdrag fra Ingvild Belck-Olsen leder for samhandlingsreformen i Follo, Ski kommune og kommunoverlege i Tromsø Trond Brattland

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Innledning

Det forventes et stadig økende antall personer med kronisk sykdom i tida framover. Dette er noe av bakgrunnen for samhandlingsreformen. Et sentralt mål i reformen er å øke innsatsen for å forebygge og begrense sykdom. Det er også et mål med helhetlig pasientforløp for å møte den enkelte pasients behov. Liggetiden i sykehus går ned og flere helse- og omsorgsoppgaver skal ivaretas i kommunene. Dette skjer samtidig med at antall eldre i samfunnet øker. Kommunene trenger derfor å satse både på god hjemmebasert omsorg for personer med kronisk sykdom og tiltak som styrker egenmestring hos kronisk syke. Dette er tiltak som vil skape trygghet og øke livskvaliteten for den enkelte pasient.

Styrker og svakheter ved litteratursøk med sortering

Ved litteratursøk gjennomfører vi systematiske litteratursøk for en gitt problemstilling. Vi gjennomgår treffene fra søket og sorterer ut ikke relevante referanser. Vanligvis skjer denne utvelgelsen bare på basis av tittel og sammendrag. I dette prosjektet har vi også innhentet artikler i fulltekst når prosjektmedarbeiderne var enige om at den aktuelle publikasjonen var relevant eller var uenige om relevans. Vi benytter kun databaser for identifisering av litteratur og kan derfor ha gått glipp av potensielt relevante studier. Vi har ikke gjort kvalitetsvurdering av artiklene. Vi har likevel valgt å presentere forfatterens konklusjoner i tabeller fordi vi mener dette kan være nyttig for bestillerne.

Ved en full forskningsoppsummering ville de inkluderte studier blitt kvalitetsvurdert i henhold til våre sjekklister og resultater sammenstilt og diskutert.

Begrunnelse for valg av søkestrategi

Kommunelege Trond Brattland i Trømsø og lederen for samhandlingsreformen Ingvild Belck-Olsen i Ski kommune, ønske å belyse problemstillinger knyttet til effekt av forskjellige omsorgstiltak i kommunene (programmer og modeller) for personer med kronisk sykdom, og dette er lagt til grunn for valg av søkestrategi. Vi har søkt etter systematiske oversikter i relevante elektroniske kilder.

Problemstilling

I prosjektet har vi søkt etter systematiske oversikter som kan belyse:

- 1: Effekt av programmer for organisering av helse og omsorgstjenestene til hjemmeboende med kronisk sykdom?
- 2: Effekt av tiltak i kommunene for å styrke egenmestring hos mennesker med kronisk sykdom?

Metode

Litteratursøking

Vi søkte systematisk etter litteratur i følgende databaser:

- Embase
- Medline
- Ahmed
- Ovid
- ISI Web of Knowledge
- Cochrane Library
- CRD

Forskningsbibliotekar Ingvild Kirkehei planla og utførte samtlige søk. Den fullstendige søkestrategien er gitt ut i vedlegg til denne rapporten. De ble brukt et presist søkefilter for systematiske oversikter i søket. Søk etter studier ble avsluttet februar 2013.

Inklusjonskriterier

Populasjon:	Pasienter med fysisk kronisk sykdom (20-65 år) med primært følgende diagnoser: Kols, revmatiske sykdommer, hjertesykdom, nevrologiske sykdommer (for eksempel Parkinson, MS og hjerneslag) og sykdommer i muskel/skjelettapparatet (for eksempel fibromyalgi og artrose).
Tiltak:	Brede modeller eller rammeverk (feks. Chronic care model) Sykdomshåndtering (Disease management) Selvhjelpsgrupper (self management) Støtte og rådgivning Undervisning Tilrettelagt trening/rehabilitering
Sammenlikning:	
Utfall:	Aktivitet og deltakelse, ADL, disability (i henhold til ICF), mestring og livskvalitet
Studiedesign	Systematiske oversikter, publisert fra 2002 til 2012
Språk:	Engelsk og skandinavisk

Eksklusjonskriterier:

Populasjon: Andre diagnoser som for eksempel kreft. Vi har ekskludert minoriteter.

Tiltak: Sykdomshåndtering som kun går på for eksempel medisinerer eller monitorering. Tiltak som tydelig foregår i andre linjetjenesten.

Utfall: Relevante utfallsmål ikke nevnt i sammendrag. Sykefravær er ikke med.

Studiedesign: Oversiktsartikler med bare en forfatter, ikke systematisk søk, ikke kvalitetsvurdering.

Artikkelutvelging

To forskere gikk gjennom alle titler og sammendrag for å vurdere relevans i henhold til inklusjonskriteriene. Vurderingene gjorde de uavhengig av hverandre og sammenlignet i etterkant. Der det var uenighet om vurderingene, ble inklusjon eller eksklusjon avgjort ved konsensus.

De artiklene som det var enighet om, ble innhentet inn i fulltekst og vurdert opp mot inklusjon og eksklusjon av to forskere uavhengig av hverandre. Dersom vi ikke kom frem til enighet, tok vi kontakt med bestiller for å komme frem til enighet.

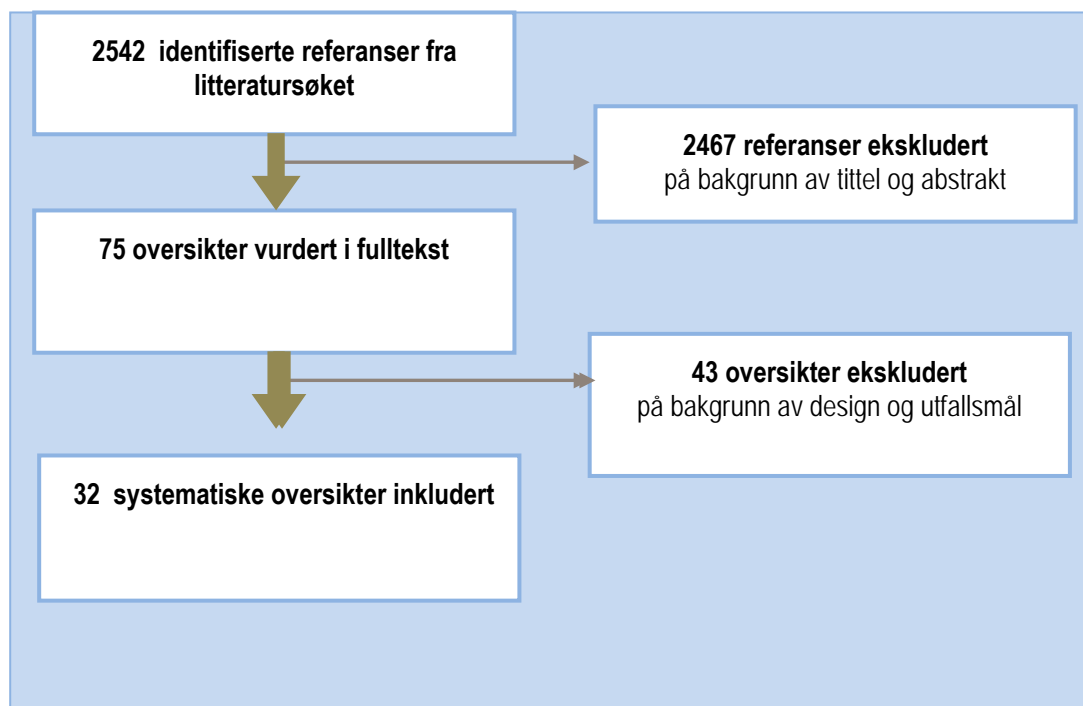
Populasjon, tiltak og utfallsmål ble innhentet fra de inkluderte oversiktene og presentert i tabellform med forfatterens konklusjoner.

Resultat

Resultat av søk

Søket resulterte i 4176 referanser. Etter dublettkontroll satt vi igjen med 2542 referanser. Vi gikk gjennom tittel og/eller sammendrag til alle referansene og innhentet 75 av de identifiserte referansene i fulltekst. Vi identifiserte 32 som tilfredsstilte inklusjonskriteriene våre, figur 1. Hovedårsaken til eksklusjon av artikler i fulltekst var design (ikke systematisk oversikt) og ikke relevante utfallsmål.

Figur 1 Flytskjema over identifisert litteratur



Resultat av sorteringen

De inkluderte systematiske oversiktene ble sortert i sju kategorier ut fra populasjon (tabell 1) og resultatene er presentert i henhold til diagnose (Tabell 2,3,4,5,6,7,8) I vedlegg 2 er forfattere, tittel på publikasjonen, publikasjonssted, sammendrag av artikkelen og lenke til de oversiktene som er publisert i Cochrane Library.

Beskrivelse av inkluderte oversikter

Tabell 1: Antall oversiktsartikler sortert etter populasjon

Populasjon (ref nr)	Antall oversikter 32
Kronisk obstruktiv lungesykdom (1-8)	8
Koronar hjertesykdom (9-14)	6
Hjertesvikt (15-19)	5
Diabetes (20-22)	3
Muskel skjelett sykdommer (23-26)	4
Nevrologiske sykdommer (27-29)	3
Andre kroniske sykdommer (30-32)	3

Kronisk obstruktiv lungesykdom

Åtte systematiske oversikter vurderte tiltak rettet mot personer med kronisk obstruktiv lungesykdom. Tre av oversiktene undersøkte ulike former for sykdomshåndtering (disease-mangement) (3;5;6), to oversikter undersøkte rehabilitering (1;4), en oversikt undersøkte ulike former for selvhjelpsgrupper (self-management) (2), en oversikt undersøkte bruk av støtte og rådgivning via telefon (7) og (9) en oversikt undersøkte bruk av kriseplan ved forverring av sykdommen (8).

Tabell 2: Omsorgstiltak for kronisk obstruktiv lungesykdom (sortert etter årstall) Merk at Kunnskapssenteret ikke har kvalitetsvurdert oversiktene og at konklusjonene er forfatternes

Author year title N(n) ¹ = included studies (design)	Intervention	Authors conclusions for relevant outcomes
Bentsen 2012 (2) Evaluation of self-management interventions for chronic obstructive pulmonary disease N=4 (RCT)	Self-management interventions	“Self-manage interventions tend to improve quality of life of patient with chronic obstructive pulmonary disease”.
Beauchamp 2011 (1) Optimal duration of pulmonary rehabilitation for individuals with	Rehabilitation	“Longer duration pulmonary rehabilitation programs appear to have a more favourable effect on health-related quality of life in individuals with

chronic obstructive pulmonary disease - A systematic review. N=5 (RCT)		COPD; results for exercise capacity are less clear”.
Walters 2010 CR* (8) Action plans with limited patient education only for exacerbations of chronic obstructive pulmonary disease. N=5 (RCT)	Action plan	“ Health-related quality of life data were limited”.
Polisena 2010 (7) Home telehealth for chronic obstructive pulmonary disease: a systematic review and meta-analysis. N=10 (RCT)	Home telehealth (home telemonitoring and telephone support)	“Home telehealth interventions were similar or better than usual care for quality of life and patient satisfaction outcomes”.
Peytreman-Bridevaux 2008 (6) Effectiveness of Chronic Obstructive Pulmonary Disease- Management Programs: Systematic Review and Meta-Analysis N=13 (RCT+) ²	Disease-management	“COPD disease-management programs modestly improved exercise capacity, health-related quality of life , and hospital admissions, but not all-cause mortality”.
Blackstock 2007 (3) Disease-specific health education for COPD: A systematic review of changes in health outcomes. N=10 (RCT)	Disease-specific health education	“Education focusing on self-management showed encouraging results with a tendency for improvements in quality of life and health care utilization, but the results did not reach statistical significance as sample sizes were insufficient to detect an effect”.
Niesink 2007 (5) Systematic review of the effects of chronic disease management on quality-of-life in people with chronic obstructive pulmonary disease N=10 (RCT)	Disease-management	“All chronic disease management projects for people with COPD involving primary care improved quality of life . In most of the studies, aspects of chronic disease management were applied to a limited extent. Quality of randomized-controlled trials was not optimal”.
Lacasse 2006 CR* (4) Pulmonary rehabilitation for chronic obstructive pulmonary disease. N=31 (RCT)	Rehabilitation	“Statistically significant Improvements were found for all the outcomes. In four important domains of QoL (dyspnea, fatigue, emotions and patients’ control over disease), the effect was larger than the minimal clinically important difference”.

* Cochrane review ² RCT and other design

Koronar hjertesykdom

Seks systematisk oversikter vurderte tiltak rettet mot personer med kronisk hjertesykdom. To av oversiktene undersøkte rehabilitering (9;10;33), en oversikt undersøkte ulike sekundærforebyggende tiltak gitt av sykepleier (12), en undersøkte forskjellige forebyggende ikke medikamentelle tiltak (13) og en oversikt undersøkte undervisning for pasienter stabil angina (14).

Tabell 3: Omsorgstiltak for koronar hjertesykdom (sortert etter årstall). Merk at Kunnskapssenteret ikke har kvalitetsvurdert oversiktene og at konklusjonene er forfatternes

Author year title N(n) ¹ = included studies (design)	Intervention	Authors conclusion for relevant outcomes
Shepherd 2012 (10) Cardiac rehabilitation and quality of life: A systematic review. N=16 (RCT)	Rehabilitation	“This review indicates that cardiac rehabilitation improves the quality of life for coronary heart disease patients and that quality of life improvements have a bi-directional relationship with increased physical activity and vocational status”.
Brown 2011 CR* Patient education in the management of coronary heart disease. N=13 (n=11) (RCT)	Education	“There was some evidence to suggest that education may improve HRQoL and reduce overall healthcare costs”.
Allen 2010 (12) Randomized Trials of Nursing Interventions for Secondary Prevention in Patients With Coronary Artery Disease and Heart Failure N=55 (n=11) (RCT)	Nursing intervention for secondary prevention	“More than half of the trials (57%) reported statistically significant results in at least 1 outcome of blood pressure, lipids, physical activity, dietary intake, cigarette smoking, weight loss, healthcare utilization, mortality, quality of life , and psychosocial outcomes”:
Muller-Riemenschneider 2010 (13) Effectiveness of nonpharmacological secondary prevention of coronary heart disease N=26 (n=17) (RCT)	Nonpharmacological Secondary prevention	“The evidence for exercise and multimodal interventions was more conclusive for reducing mortality, whereas psychosocial interventions seemed to be more effective in improving the quality of life ”.
Taylor CR* (9) Home based versus centre based cardiac rehabilitation. N=12 (n=5) (RCT)	Rehabilitation	“Home- and centre-based cardiac rehabilitation appears to be equally effective in improving the clinical and health-related quality of life outcomes in acute MI and revascularization patients”.
McGillion 2008 (14) Effectiveness of psycho educational interventions for improving symptoms, health-related quality of life, and psychological well being in patients with stable angina N=7 (n=2) (RCT)	Psycho education	“Significant HRQL improvements (Seattle Angina Questionnaire) were also found for physical limitation, $\Delta = 8.00$, 95% CI 4.23 to 11.77, and disease perception, $\Delta = 4.46$, 95% CI 0.15 to 8.77, but CIs were broad. A pooled estimate of effect on psychological well-being was not possible due to heterogeneity of measures”.

* Cochrane review ¹ Number of studies reporting health related quality of life (HRQL) or quality of life

Hjertesvikt

Fem systematiske oversikter vurderte tiltak rette mot personer med hjertesvikt. En oversikt undersøkte ulike komponenter av kronikeromsorg for pasienter med hjertesvikt (18). Tre oversikter under søkte ulike former for selvhjelpsgrupper og eller undervisning (15-17) og en undersøkte effekten av støtte og rådgivning via telefon (19).

Tabell 4: Omsorgstiltak for hjertesvikt (sortert etter årstall). Merk at Kunnskapssenteret ikke har kvalitetsvurdert oversiktene og at konklusjonene er forfatternes

Author year title N(n) ¹ = included studies (design)	Intervention	Authors conclusion for relevant outcomes
Drewes 2012 (18) The Effectiveness of Chronic Care Management for Heart Failure: Meta-Regression Analyses to Explain the Heterogeneity in Outcomes N=46	Chronic Care Management	“Positive effects on hospitalization and quality of life were shown, however, with substantial heterogeneity in effectiveness. This heterogeneity is not explained by study quality, length of follow-up, or the number of chronic care model components”.
Boyde 2011 (16) Educational interventions for patients with heart failure: a systematic review of randomized controlled trials N=19 (n=12) (RCT)	Education	“Only 2 of the 12 studies that measured quality of life reported a positive effect”.
Ditewig 2010 (17) Effectiveness of self-management interventions on mortality, hospital readmissions, chronic heart failure hospitalization rate and quality of life in patients with chronic heart failure: A systematic review. N=19 (n=14) (RCT)	Self-management	“This systematic review found that current available published studies show methodological shortcomings impairing validation of the effectiveness of self-management interventions on mortality, all-cause hospital readmissions, chronic heart failure hospitalization rate and quality of life in patients with chronic heart failure”.
Inglis 2010 CR* (19) Structured telephone support or telemonitoring programmes for patients with chronic heart failure. N=25 (n=16), (RCT)	Home telehealth (home telemonitoring and telephone support)	“Structured telephone support and telemonitoring are effective in reducing the risk of all-cause mortality and CHF-related hospitalizations in patients with CHF; they improve quality of life , reduce costs, and evidence-based prescribing”.
Boren 2009 (15) Heart failure self-management education: a systematic review of the evidence. N=35 (n=20) (RCT)	Self-management education	“A total of 113 unique outcomes in nine categories (satisfaction, learning, behaviour, medications, clinical status, social functioning, mortality, medical resource utilisation and cost) were measured in the studies. Sixty (53%) of the outcomes showed significant improvement in at least one study”.

* Cochrane review ¹ Number of studies reporting quality of life,

Diabetes

Tre systematiske oversikter undersøkte tiltak rette mot personer med diabetes. En oversikt undersøkte undervisningstiltak rette mot personer med type 2 diabetes (21), en undersøkte støtte og rådgivning via telefon (20) og en oversikt undersøkte ulike tiltak for å bedre helse relatert livskvalitet for pasienter med diabetes (22).

Tabell 5: Omsorgstiltak for diabetes (sortert etter årstall). Merk at Kunnskapssenteret ikke har kvalitetsvurdert oversiktene og at konklusjonene er forfatternes

Author year title N(n) ¹ = included studies (design)	Intervention	Authors conclusion for relevant outcomes
Steinsbekk 2012 (21) A Group based diabetes self-management education compared to routine treatment for people with type 2 diabetes mellitus. A systematic review with meta-analysis N=21 (n=7) (RCT)	Education	“For the main psychosocial outcomes, there were significant improvement for empowerment/self-efficacy (SMD 0.28, P=0.01, 2 studies, 326 participants) after 6 months. For quality of life no conclusion could be drawn due to high heterogeneity”.
Polisena 2009 (20) Home telehealth for diabetes management: A systematic review and meta-analysis. N=26 (n=11) (RCT+) ²	Telehealth (home telemonitoring and telephone support)	“Home telehealth was similar or favorable to UC across studies for quality-of-life and patient satisfaction outcomes”.
Zang 2007 (22) The effects of interventions on health-related quality of life among persons with diabetes N=33 (n=5) (RCT+) ²	Different interventions	“Interventions generally demonstrated improvement in HRQL , as measured by the 8 profile scores of the SF-36 (scale range, 0–100)”.

¹ Number of studies reporting health related quality of life (HRQL) or quality of life ² RCT and other design

Muskelskjelett sykdommer

Fire systematiske oversikter undersøkte tiltak rettet mot pasienter med ulike muskelskjelett lidelser. En oversikt undersøkte effekten av selvhjelpsgrupper for pasienter med ryggsmarter (26). To oversikter undersøkte effekten forskjellige former for undervisning og/eller selvhjelpsgrupper for pasienter med kroniske muskelskjelett smerter (23;24) og en undersøkte effekten av undervisning for pasienter med whiplash (25).

Tabell 6: Omsorgstiltak for muskelskjelett sykdommer (sortert etter årstall). Merk at Kunnskapssenteret ikke har kvalitetsvurdert oversiktene og at konklusjonene er forfatternes

Author year title N(n) ¹ = included studies (design)	Intervention	Authors conclusion for relevant outcomes
Oliveira 2012 (26) Effectiveness of self-management of low back pain N=13 (n=7) (RCT)	Self-management	“There is moderate-quality evidence that self-management has small effects on pain and disability in people with LBP”.
Meeus 2012 (25) The Efficacy of Patient Education in Whiplash Associated Disorders N=10 (RCT)	Education	“Both oral and written advice, education integrated in exercise programs and behavioral programs appear effective interventions for reducing pain and disability and enhancing recovery and mobility in patients with WAD”.
Du 2011 (23)	Self-management	“For chronic back pain, there is insuffi-

Self-management programs for chronic musculoskeletal pain conditions. N=10 (n=5) (RCT)		cient evidence to determine the effectiveness of self-management programs”.
Louw 2011 (24) The effect of neuroscience education on pain, disability, anxiety, and stress in chronic musculoskeletal pain N=8 (n=5) (RCT+) ²	Education	“For chronic MSK pain disorders, there is compelling evidence that an educational strategy addressing neurophysiology and neurobiology of pain can have a positive effect on pain, disability , catastrophization, and physical performance”.

¹ Number of studies reporting disability ² RCT and other design

Nevrologiske sykdommer

Tre systematiske oversikter undersøkte tiltak rette mot personer med ulike nevrologiske lidelser. En oversikt undersøkte ulike tiltak rettet mot pasienter med Multipel sclerose (29). En oversikt undersøkte rehabilitering og koordinering av omsorgstiltak i kommunene for slagpasienter (28) og en undersøkte effekten av selvhjelpsgrupper for pasienter med epilepsi (27).

Tabell 7: Omsorgstiltak for nevrologiske sykdommer (sortert etter årstall). Merk at Kunnskapscenteret ikke har kvalitetsvurdert oversiktene og at konklusjonene er forfatternes

Author year title N(n) ¹ = included studies (design)	Intervention	Authors conclusion for relevant outcomes
Kuspinar 2012 (29) The effects of clinical interventions on health related quality of life in multiple sclerosis: a meta-analysis N=39 (n=12) (RCT)	Clinical interventions	“The smallest effect was observed for self-management and complementary and alternative medicine (ES=0.2), followed by medication (ES=0.3) then cognitive training and exercise (ES=0.4), and psychological interventions to improve mood (ES=0.7). The magnitude of positive effect on HRQL varied between the different types of interventions”.
Graven 2011 (28) Are rehabilitation and/or care coordination interventions delivered in the community effective in reducing depression, facilitating participation and improving quality of life after stroke? N=54 (n=29) (RCT)	Rehabilitation/ care coordination interventions	“There is limited to moderate evidence supporting some rehabilitation interventions in affecting the outcomes of depression, participation and HRQL post-stroke. Heterogeneity of the studies made evidence synthesis difficult”.
Bradly 2008 (27) Care delivery and self-management strategies for adults with epilepsy. N=13 (n=4) (RCT+) ²	Self-management	“There is currently limited evidence for the effectiveness of interventions to improve the health and life quality of people with epilepsy”.

¹ Number of studies reporting health related quality of life (HRQL) or quality of life ² RCT and other design

Andre diagnoser

Vi inkluderte en oversikt som undersøkte effekten av selvhjelpsgrupper for pasienter med cystisk fibrose (31), en oversikt undersøkte effekten av undervisning for pasienter med leddgikt (30) og en oversikt som undersøkte effekten av ulike tiltak for bedre behandlingen av kronisk syke (32).

Tabell 8: Omsorgstiltak for andre diagnoser (sortert etter årstall). Merk at Kunnskaps-senteret ikke har kvalitetsvurdert oversiktene og at konklusjonene er forfatterens

Author year title N(n) ¹ = included studies (design)	Intervention	Authors conclusion for relevant outcomes
Savage 2011 CR* (31) Self-management education for Cystic fibrosis. N=4 (n=2) (RCT+)	Self-management education	“The available evidence from this review is of insufficient quantity and quality to draw any firm conclusions about the effects of self-management education for Cystic fibrosis”.
Riemsma 2009 CR* (30) Patient education for adults with rheumatoid arthritis N=31 (n=25?) (RCT)	Education	“Patient education as provided in the studies reviewed here had small short-term effects on disability , joint counts, patient global assessment, psychological status and depression. There was no evidence of long-term benefits in adults with rheumatoid arthritis”.
Tsai 2005* (32) A meta-analysis of interventions to improve care for chronic illnesses N=21 (RCT+) ²	Different interventions	“Interventions that contain at least 1 CCM element improve clinical outcomes and processes of care--and to a lesser extent, quality of life for patients with chronic illnesses”.

* Cochrane review ¹ Number of studies reporting disability or quality of life ² RCT and other design

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Vedlegg

Vedlegg 1 Søkestrategi

Søk utført av: Ingvild Kirkehei

Søketreff totalt: 4176

Søketreff totalt etter dublettkontroll: 2542

Ovid MEDLINE, EMBASE, Amed

Dato: 18.1.2013

De ble brukt et presist søkefilter for systematiske oversikter.

Søketreff:

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid

MEDLINE(R) 1946 to Present: 1442

Embase 1980 to 2013 Week 03: 1139

AMED (Allied and Complementary Medicine) 1985 to January 2013: 88

1. Chronic Disease/ use prmz,amed or *chronic disease/ use emez or exp *chronic pain/ use emez
2. ((chronic* adj2 (disease* or illness* or condition*)) or chronic* pain*).tw.
3. exp Pulmonary Disease, Chronic Obstructive/ use prmz or *chronic obstructive lung disease/ use emez or exp pulmonary disease chronic obstructive/ use amed or lung diseases obstructive/ use amed
4. ((Chronic* Obstructive* adj (disease* or lung disease* or pulmonary disease* or airway disease*)) or (copd or coad) or (obstructive pulmonary disease* or obstructive lung disease* or obstructive respiratory disease*)).tw.
5. exp Diabetes Mellitus/ use prmz,amed or exp *diabetes mellitus/ use emez or diabet*.tw.
6. exp Obesity/ use prmz,amed or exp *obesity/ use emez or Overweight/ use prmz or (obesity or overweight).tw.
7. exp Rheumatic Diseases/ use prmz or exp *rheumatic disease/ use emez or exp *arthropathy/ use emez or Rheumatic Disease/ use amed
8. (rheumatic* or rheumatism or rheumatoid* or arthrit* or osteoarthritis* or arthropath* or polyarthrit* or gout or spondylarthr* or spondylit* or hyperostosis or polymyalgi*).tw. or exp Spondylitis/ use prmz
9. exp Heart Diseases/ use prmz or cardiovascular diseases/ use prmz or exp *heart disease/ use emez or exp *cardiovascular disease/ use emez or exp cardiovascular disease/ use amed

10. (heart disease* or cardiac disease* or cardiovascular disease* or heart failure* or atrial fibrillation* or endocarditis or heart valv* disease* or heart defect* or cardiac defect* or cardiomegal* or cardiomyopath* or heart aneurysm* or cardiac aneurysm* or heart arrest* or cardiac arrest* or infarction* or heart failure* or heart rupture or cardiac rupture* or myocardial ischemia* or pulmonary valve stenosis or ventricular dysfunction* or heartblock* or heart block*).tw.
11. Thoracic Surgery/ use prmz,amed or exp *heart surgery/ use emez or Heart Transplantation/ use prmz or (heart transplant* or cardiac transplant* or heart surger* or thoracic surger* or cardiac surger* or cardiovascular surger*).tw.
12. exp Nervous System Diseases/ use prmz or exp *neurologic disease/ use emez or exp Nervous System Disease/ use amed
13. (Nervous System Disease* or neurologic disease* or Multiple Sclerosis or parkinson* or cerebral palsy or stroke or cerebrovascular accident* or cardiovascular disorder* or hemorrhage* or thrombosis or epilepsy or polyneuropath* or chronic fatigue syndrom* or cfs* or myalgic* encephalomyelitis).tw.
14. Musculoskeletal Diseases/ use prmz or *musculoskeletal disease/ use emez or Musculoskeletal Disease/ use amed or Musculoskeletal pain/ use prmz or *musculoskeletal pain/ use emez or exp back pain/ use prmz or exp *backache/ use emez or exp backache/ use amed or neck pain/ use prmz,amed or *neck pain/ use emez or exp neuralgia/ use prmz,amed or exp *neuralgia/ use emez
15. (Musculoskeletal Disease* or back pain* or neck pain* or muscle pain* or myalgia or neuralgia or musculoskeletal pain*).tw.
16. (medical* unexplain* physical symptom* or medical* unexplain* symptom* or MUPS or functional* somatic* syndrom* or (general* adj2 pain)).tw.
17. or/1-16
18. (chronic care model* or chronic care management or ((life skill* or activities of daily living or adl) adj2 (program* or model*)) or care program*).tw.
19. exp *health program/ use emez
20. *disease management/ use prmz or *pain management/ use prmz or *disease management/ use emez or disease management/ use amed
21. disease management.tw.
22. ((life skill* or activities of daily living or ADL) adj3 (training or learning or promot* or group*)).mp.
23. Self-Help Groups/ use prmz or support group/ use emez or group process/ use emez or group therapy/ use emez or exp Self help groups/ use amed
24. (self help or self care or self management or self administration or support group*).tw.
25. self care/ use prmz,amed or self administration/ use prmz or self care/ use emez or self care agency/ use emez or self help/ use emez
26. social support/ use prmz,amed or exp social support/ use emez
27. social support.tw.
28. counseling/ use prmz,amed or directive counseling/ use prmz or counseling/ use emez or directive counseling/ use emez or exp patient counseling/ use emez or exp patient guidance/ use emez
29. counseling.tw.
30. Patient Education as Topic/ use prmz or exp diabetes education/ use emez or exp patient education/ use emez or patient education/ use amed or exp physical education/ use amed
31. "Physical Education and Training"/ use prmz or physical education/ use emez
32. ((patient adj3 education) or (patient adj3 training) or group* education* or group* training or group* therapy or support group* or group* learning or group* exercise or group* teaching or group* learning or group* process* or group care or

group based or psychoeducat* or back school* or heart school* or physical education or health education or cardiac rehabilitation or heart rehabilitation or lung rehabilitation or copd rehabilitation or pulmonary rehabilitation).tw.

33. exp heart rehabilitation/ use emez or exp pulmonary rehabilitation/ use emez

34. or/18-33

35. Meta-Analysis/ use prmz

36. ((systematic* adj2 review*) or meta-analys* or "overview of overviews" or "overview of reviews").tw.

37. or/35-36

38. 17 and 34 and 37

39. limit 38 to yr="2002 -Current"

40. animal/ not human/

41. 39 not 40

42. 41 use emez

43. limit 42 to embase

44. 41 use prmz,amed

45. 43 or 44

46. remove duplicates from 45

Cochrane Library

Dato: 18.1.2013

Søketreff: Cochrane Database of Systematic Reviews 156, DARE 299, HTA 48

#1 MeSH descriptor: [Chronic Disease] explode all trees

#2 ((chronic* near/2 (disease* or illness* or condition*)) or (chronic* next pain*)):ti,ab,kw

#3 MeSH descriptor: [Pulmonary Disease, Chronic Obstructive] explode all trees

#4 ((Chronic* next Obstructive* next (disease* or lung disease* or pulmonary disease* or airway disease*)) or (copd or coad) or (obstructive next pulmonary next disease*) or (obstructive next lung next disease*) or (obstructive next respiratory next disease*)):ti,ab,kw

#5 MeSH descriptor: [Diabetes Mellitus] explode all trees

#6 diabet*:ti,ab,kw

#7 MeSH descriptor: [Obesity] explode all trees

#8 MeSH descriptor: [Overweight] explode all trees

#9 (obesity or overweight):ti,ab,kw

#10 MeSH descriptor: [Rheumatic Diseases] explode all trees

#11 MeSH descriptor: [Spondylitis] explode all trees

#12 (rheumatic* or rheumatism or rheumatoid* or arthrit* or osteoarthritis* or arthropath* or polyarthrit* or gout or spondylarthr* or spondylit* or hyperostosis or polymyalgi*):ti,ab,kw

#13 MeSH descriptor: [Cardiovascular Diseases] explode all trees

#14 ((heart next disease*) or (cardiac next disease*) or (cardiovascular next disease*) or (heart next failure*) or (atrial next fibrillation*) or endocarditis or (heart next valv* next disease*) or (heart next defect*) or (cardiac next defect*) or cardiomegal* or cardiomyopath* or (heart next aneurysm*) or (cardiac next aneurysm*) or (heart next arrest*) or (cardiac next arrest*) or in-

- farction* or (heart next failure*) or (heart next rupture*) or (cardiac next rupture*) or (ischemic next heart next disease) or (myocardial next ischemia) or (pulmonary next heart next disease*) or (pulmonary next valve next stenosis) or (ventricular next dysfunction*) or heartblock* or (heart next block*)):ti,ab,kw
- #15 MeSH descriptor: [Thoracic Surgery] explode all trees
- #16 ((heart next transplant*) or (cardiac next transplant*) or (heart next surger*) or (thoracic next surger*) or (cardiac next surger*) or (cardiovascular next surger*)):ti,ab,kw
- #17 MeSH descriptor: [Nervous System Diseases] explode all trees
- #18 ((Nervous next System next Disease*) or (neurologic next disease*) or (Multiple next Sclerosis) or parkinson* or (cerebral next palsy) or stroke or (cerebrovascular next accident*) or (cardiovascular next disorder*) or hemorrhage* or thrombosis or epilepsy or polyneuropath* or (chronic next fatigue next syndrom*) or cfs* or (myalgic* next encephalomyelitis)):ti,ab,kw
- #19 MeSH descriptor: [Musculoskeletal Diseases] this term only
- #20 MeSH descriptor: [Musculoskeletal Pain] explode all trees
- #21 MeSH descriptor: [Back Pain] explode all trees
- #22 MeSH descriptor: [Neck Pain] explode all trees
- #23 MeSH descriptor: [Neuralgia] explode all trees
- #24 ((Musculoskeletal next Disease*) or (back next pain*) or (neck next pain*) or (muscle next pain*) or myalgia or neuralgia or (musculoskeletal next pain*)):ti,ab,kw
- #25 ((medical* next unexplain* next physical next symptom*) or (medical* next unexplain* next symptom*) or MUPS or (functional* next somatic* next syndrom*) or (general* near/2 pain)):ti,ab,kw
- #26 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25
- #27 ((chronic next care next model*) or (chronic next care next management) or (((life next skill*) or "activities of daily living" or adl) near/2 (program* or model*)) or (care next program*)):ti,ab,kw
- #28 (((life next skill*) or "activities of daily living" or ADL) near/3 (training or learning or promot* or group* or manage*)):ti,ab,kw
- #29 MeSH descriptor: [Self-Help Groups] explode all trees
- #30 ("self help" or "self care" or "self management" or "self administration" or (support next group*)):ti,ab,kw
- #31 MeSH descriptor: [Self Care] this term only
- #32 MeSH descriptor: [Self Administration] explode all trees
- #33 MeSH descriptor: [Social Support] explode all trees
- #34 "social support":ti,ab,kw
- #35 MeSH descriptor: [Counseling] this term only
- #36 MeSH descriptor: [Directive Counseling] explode all trees
- #37 counseling:ti,ab,kw

- #38 MeSH descriptor: [Patient Education as Topic] explode all trees
- #39 MeSH descriptor: [Physical Education and Training] explode all trees
- #40 ((patient near/3 education) or (patient near/3 training) or (group* next education*) or (group* next training) or (group* next therapy) or (support next group*) or (group* next learning) or (group* next exercise) or (group* next teaching) or (group* next learning) or (group* next process*) or (group next care) or (group next based) or psychoeducat* or (back next school*) or (heart next school*) or (physical next education) or (health next education) or (cardiac next rehabilitation) or (heart next rehabilitation) or (lung next rehabilitation) or (copd next rehabilitation) or (pulmonary next rehabilitation)):ti,ab,kw
- #41 #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or #38 or #39 or #40
- #42 #26 and #41 from 2002 to 2013

ISI Web of Knowledge

Dato: 18.1.2013

Søketreff: 817

4 #1 and #2 and #3

Databases=SCI-EXPANDED, SSCI Timespan=2002-01-01 - 2013-01-21

3 Topic=((systematic NEAR/2 review*) or "meta-analysis" or "overview of overviews" or "overview or reviews")

Databases=SCI-EXPANDED, SSCI Timespan=2002-01-01 - 2013-01-21

2 Topic=("chronic care model" or "chronic care management") OR Topic=(("life skills" or "life skill" or "activities of daily living" or adl) NEAR/2 (program* or model* or training or learning or promot* or group* or manage*)) OR Topic=("self help" or "self care" or "self management" or "self administration" or (support NEAR/1 group*)) OR Topic=("social support" or counseling) OR Topic=((patient NEAR/2 education) or (patient NEAR/3 training) or "group training" or "group therapy" or (support NEAR/1 group*) or (back NEAR/1 school*) or (heart NEAR/1 school*) or "physical education" or "cardiac rehabilitation" or "heart rehabilitation" or "lung rehabilitation" or "copd rehabilitation" or "pulmonary rehabilitation")

Databases=SCI-EXPANDED, SSCI Timespan=2002-01-01 - 2013-01-21

1 Topic=(chronic* NEAR/2 (disease* or illness*)) OR Topic=("Chronic Obstructive lung disease" or copd or diabetes or rheumat* or arthrit* or osteoarthritis* or arthropath*) OR Topic=(heart NEAR/1 (disease or failure or transplant* or surgery)) OR Topic=(("Nervous System" NEAR/1 Disease*) or (neurologic NEAR/1 disease*) or "Multiple Sclerosis" or parkinson* or "cerebral palsy" or stroke or "cerebrovascular accident" or (cardiovascular NEAR/1 disorder*) or hemorrhage* or thrombosis or epilepsia or polyneuropath* or "chronic fatigue syndrom" or cfs* or "myalgic encephalomyelitis") OR Topic=((Musculoskeletal NEAR/1 Disease*) or "back pain" or "neck pain" or "muscle pain" or myalgia or neuralgia or "musculoskeletal pain") OR Topic=((medical* NEAR/1 unexplain* NEAR/2 symptoms))

CRD Databases (DARE, HTA)

Søket ble avgrenset til publikasjonsdato fom 2009, fordi både DARE og HTA er inkludert i Cochrane Library, men med noe etterslep i tid.

Dato: 21.1.2013

Søketreff: DARE 150, HTA 37

- 1 MeSH DESCRIPTOR Chronic Disease EXPLODE ALL TREES
- 2 MeSH DESCRIPTOR Pulmonary Disease, Chronic Obstructive EXPLODE ALL TREES
- 3 MeSH DESCRIPTOR Diabetes Mellitus EXPLODE ALL TREES
- 4 MeSH DESCRIPTOR Obesity EXPLODE ALL TREES
- 5 MeSH DESCRIPTOR Overweight EXPLODE ALL TREES
- 6 MeSH DESCRIPTOR Rheumatic Diseases EXPLODE ALL TREES
- 7 MeSH DESCRIPTOR Spondylitis EXPLODE ALL TREES
- 8 MeSH DESCRIPTOR Cardiovascular Diseases EXPLODE ALL TREES
- 9 MeSH DESCRIPTOR Thoracic Surgery EXPLODE ALL TREES
- 10 MeSH DESCRIPTOR Nervous System Diseases EXPLODE ALL TREES
- 11 MeSH DESCRIPTOR Musculoskeletal Diseases EXPLODE ALL TREES
- 12 MeSH DESCRIPTOR Musculoskeletal Pain EXPLODE ALL TREES
- 13 MeSH DESCRIPTOR Back Pain EXPLODE ALL TREES
- 14 MeSH DESCRIPTOR Neck Pain EXPLODE ALL TREES
- 15 MeSH DESCRIPTOR Neuralgia EXPLODE ALL TREES
- 16 (chronic* or diabetes or obesity or overweight or rheumat* or arthrit* or osteoarthritis* or arthropath* or polyarthrit* or gout or spondylarthr* or spondylit* or hyperostosis or polymyalgi* or heart or cardiac or cardiovascular or "Nervous System" or neurologic or "multiple sclerosis" or "cerebral palsy" or stroke or musculoskeletal or back or neck or parkinson* or neuralgia):TI
- 17 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16
- 18 ("chronic care model" or "chronic care management"):TI
- 19 MeSH DESCRIPTOR Self-Help Groups EXPLODE ALL TREES
- 20 MeSH DESCRIPTOR Self Care EXPLODE ALL TREES
- 21 MeSH DESCRIPTOR Self Administration EXPLODE ALL TREES
- 22 MeSH DESCRIPTOR Social Support EXPLODE ALL TREES
- 23 MeSH DESCRIPTOR Counseling EXPLODE ALL TREES
- 24 MeSH DESCRIPTOR Directive Counseling EXPLODE ALL TREES
- 25 MeSH DESCRIPTOR Patient Education as Topic EXPLODE ALL TREES
- 26 MeSH DESCRIPTOR Physical Education and Training EXPLODE ALL TREES
- 27 ("self help" or "self care" or "self management" or "self administration" or "social support" or counseling or education or group):TI

- 28 ("back school*" or "heart school*" or "cardiac rehabilitation" or "heart rehabilitation" or "lung rehabilitation" or "copd rehabilitation" or "pulmonary rehabilitation"):TI
- 29 #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27
OR #28
- 30 #17 AND #29

Vedlegg 2 Sammendrag inkluderte oversikter

Kronisk obstruktiv lungesykdom

Bentsen SB, Langeland E, Holm AL. Evaluation of self-management interventions for chronic obstructive pulmonary disease. J Nurs Manag 2012;20(6):802-13

AIM: To evaluate the benefits of self-management interventions on the quality of life of patients with chronic obstructive pulmonary disease.

BACKGROUND: Chronic obstructive pulmonary disease is one of the most wide-spread chronic conditions worldwide, and it is predicted to increase over the next decade. Although previous review studies have demonstrated the benefits of self-management interventions on health-care utilisation, their benefits on quality of life are still unclear.

METHOD: In this systematic review, we examined four randomised controlled trials undertaken between 2000 and 2011 to evaluate the benefits of chronic obstructive pulmonary disease self-management interventions on patient quality of life.

RESULTS: The main theme that emerged was that self-management interventions improved patient well-being, with three minor themes: reducing the burden on patients, improved patient activity and improved total patient health.

CONCLUSION: Self-management interventions tend to improve the quality of life of patients with chronic obstructive pulmonary disease. Further randomised controlled trials are recommended to evaluate self-management interventions in chronic obstructive pulmonary disease to confirm these benefits.

IMPLICATIONS FOR NURSING MANAGEMENT: Nursing management in health services is involved in caring for patients with chronic obstructive pulmonary disease and is responsible for liaising with other members of the health-care team. We recommend that nursing management be engaged in health-care services to develop and implement self-management interventions for chronic obstructive pulmonary disease patients to improve their quality of life.

Beauchamp MK, Janaudis-Ferreira T, Goldstein RS, Brooks D. Optimal duration of pulmonary rehabilitation for individuals with chronic obstructive pulmonary disease - A systematic review. Chronic Respiratory Disease 2011;8(2):May.

The purpose of this review was to determine the impact of duration of pulmonary rehabilitation on measures of health-related quality of life and exercise tolerance in individuals with chronic obstructive pulmonary disease (COPD). Randomized controlled trials (RCTs) comparing different lengths of pulmonary rehabilitation in patients with COPD were identified after searches of six electronic databases (MEDLINE, PubMed, CINAHL, EMBASE, Physiotherapy Evidence Database [PEDro] and the Cochrane Library of clinical trials) and reference lists of pertinent articles. Two reviewers performed the searches and assessed trial quality using PEDro and Jadad scales. Five RCTs met inclusion criteria. The mean PEDro score was 6 (range 3-8) and mean Jadad was 2 (range 1-3). Three trials reported a difference in health-related quality of life in favour of the longer duration program; two trials reported a benefit in exercise capacity in favour of longer programs. A meta-analysis of results was not possible due to considerable heterogeneity in program duration and outcomes. Longer duration pulmonary rehabilitation programs appear to have a more favourable effect on health-related quality of life in individuals with COPD; results for exercise capacity are less clear. The limited literature prevents a more definitive conclusion on optimal duration of rehabilitation.

Walters Julia AE, Turnock AC, Walters E.Haydn, Wood-Baker R. Action plans with limited patient education only for exacerbations of chronic obstructive pulmonary disease. *Cochrane Database Syst Rev* 2010;(5):CD005074.

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005074.pub3/pdf>

Background: Chronic obstructive pulmonary disease (COPD) is a progressive disease characterised by exacerbations, usually infective in origin, which affect symptoms and quality of life. Action plans may help individuals recognise a deterioration in their symptoms and initiate changes to treatment early, thereby reducing the impact of the exacerbation.

Objectives: To assess the efficacy of action plans in the management of COPD.

Search methods. We searched the Cochrane Airways Group Specialised Register (7 July 2009), CENTRAL, MEDLINE, CINAHL and ongoing trials registers (last searched July 2009).

Selection criteria: Randomised controlled trials of an individual action plan with minimal or no self management education, compared to control in patients with COPD were included. Studies in asthma and in multi-faceted interventions in which an action plan was combined with other elements such as education programme, exercise programme or outreach visits were excluded.

Data collection and analysis: Two reviewers independently assessed trial quality and extracted data. We contacted investigators for additional information when necessary.

Main results: Five studies enrolling 574 participants with moderate or severe COPD, with follow-up from six to twelve months, were included. There was no evidence that action plans reduced health care utilisation; assessed by hospital admission (mean difference (MD) 0.23; 95% CI -0.03 to 0.49), emergency department visits (MD 0.37; 95% CI -0.50 to 1.24) or GP visits (MD 0.53; -0.45, 1.50). Use of action plans was associated with increased initiation of treatment for acute exacerbations. Oral corticosteroid use was increased over 12 months (MD 0.74; 95% CI 0.14 to 1.35) with a significant increase in odds of being treated with antibiotics over 12 months (odds ratio 1.65; 95% CI 1.01 to 2.69). Self management knowledge and intention to initiate appropriate actions were improved in one study; recognition of a severe exacerbation (MD 2.50; 95% CI 1.04 to 3.96) and self initiating action in a severe exacerbation (MD 1.50; 95% CI 0.62 to 2.38). Health-related quality of life data were limited.

Polisena J, Tran K, Cimon K, Hutton B, McGill S, Palmer K, et al. Home telehealth for chronic obstructive pulmonary disease: a systematic review and meta-analysis. *J Telemed Telecare* 2010;16(3):120-7.

We conducted a systematic review of the literature about home telehealth for chronic obstructive pulmonary disease (COPD) compared with usual care. An electronic literature search identified 6241 citations. From these, nine original studies (10 references) relating to 858 patients were selected for inclusion in the review. Four studies compared home telemonitoring with usual care, and six randomized controlled trials compared telephone support with usual care. Clinical heterogeneity was present in many of the outcomes measured. Home telehealth (home telemonitoring and telephone support) was found to reduce rates of hospitalization and emergency department visits, while findings for hospital bed days of care varied between studies. However, the mortality rate was greater in the telephone-support group compared with usual care (risk ratio = 1.21; 95% CI: 0.84 to 1.75). Home telehealth interventions were similar or better than usual care for quality of life and patient satisfaction outcomes.

Peytremann-Bridevaux I, Staeger P, Bridevaux P-O, Ghali WA, Burnand B. Effectiveness of Chronic Obstructive Pulmonary Disease-Management Programs: Systematic Review and Meta-Analysis. Am J Med 2008;121(5):May.

BACKGROUND: Disease-management programs may enhance the quality of care provided to patients with chronic diseases, such as chronic obstructive pulmonary disease (COPD). The aim of this systematic review was to assess the effectiveness of COPD disease-management programs.

METHODS: We conducted a computerized search of MEDLINE, EMBASE, CINAHL, PsychINFO, and the Cochrane Library (CENTRAL) for studies evaluating interventions meeting our operational definition of disease management: patient education, 2 or more different intervention components, 2 or more health care professionals actively involved in patients' care, and intervention lasting 12 months or more. Programs conducted in hospital only and those targeting patients receiving palliative care were excluded. Two reviewers evaluated 12,749 titles and fully reviewed 139 articles; among these, data from 13 studies were included and extracted. Clinical outcomes considered were all-cause mortality, lung function, exercise capacity (walking distance), health-related quality of life, symptoms, COPD exacerbations, and health care use. A meta-analysis of exercise capacity and all-cause mortality was performed using random-effects models.

RESULTS: The studies included were 9 randomized controlled trials, 1 controlled trial, and 3 uncontrolled before-after trials. Results indicate that the disease-management programs studied significantly improved exercise capacity (32.2 m, 95% confidence interval [CI], 4.1-60.3), decreased risk of hospitalization, and moderately improved health-related quality of life. All-cause mortality did not differ between groups (pooled odds ratio 0.84, 95% CI, 0.54-1.40).

CONCLUSION: COPD disease-management programs modestly improved exercise capacity, health-related quality of life, and hospital admissions, but not all-cause mortality. Future studies should explore the specific elements or characteristics of these programs that bring the greatest benefit

Blackstock F, Webster KE. Disease-specific health education for COPD: A systematic review of changes in health outcomes. Health Education Research 2007;22(5):October

A systematic review was conducted to determine the benefits of disease-specific health education for people with chronic obstructive pulmonary disease (COPD). A search was conducted through Medline, CINAHL, PsycINFO, Embase, Cochrane Library, Physiotherapy Evidence Database and reference lists to obtain publications reporting on educational interventions compared with usual medical care. Two reviewers independently assessed each paper for methodological quality and data extraction. Thirteen publications describing 10 randomized controlled trials were identified for inclusion. The studies reported on a very broad variety of outcomes and follow-up periods, making a meta-analysis not possible for most measures. Didactical educational intervention for the COPD population appeared to have minimal effect on health outcomes including quality of life, health care utilization, exercise capacity or lung function and is therefore not the education delivery method recommended. Education focusing on self-management showed encouraging results with a tendency for improvements in quality of life and health care utilization, but the results did not reach statistical significance as sample sizes were insufficient to detect an effect. Further research is required into self-management education as it is not possible to make generalizations from the current published literature as to the benefits in changing health status in the COPD population.

Niesink A, Trappenburg JCA, de Weert-van Oene GH, Lammers JWJ, Verheij TJM, Schrijvers AJP. Systematic review of the effects of chronic disease management on quality-of-life in people with chronic obstructive pulmonary disease. *Respir Med* 2007;101(11):November.

INTRODUCTION: Chronic disease management for patients with chronic obstructive pulmonary disease (COPD) may improve quality, outcomes and access to care.

OBJECTIVE: To investigate effectiveness of chronic disease management programmes on the quality-of-life of people with COPD.

METHODS: Medline and Embase (1995-2005) were searched for relevant articles, and reference lists and abstracts were searched for controlled trials of chronic disease management programmes for patients with COPD. Quality-of-life was assessed as an outcome parameter. Two reviewers independently reviewed each paper for methodological quality and extracted the data.

RESULTS: We found 10 randomized-controlled trials comparing chronic disease management with routine care. Patient populations, health-care professionals, intensity, and content of the intervention were heterogeneous. Different instruments were used to assess quality of life. Five out of 10 studies showed statistically significant positive outcomes on one or more domains of the quality of life instruments. Three studies, partly located in primary care, showed positive results.

CONCLUSIONS: All chronic disease management projects for people with COPD involving primary care improved quality of life. In most of the studies, aspects of chronic disease management were applied to a limited extent. Quality of randomized-controlled trials was not optimal. More research is needed on chronic disease management programmes in patients with COPD across primary and secondary care.

Lacasse Y, Goldstein R, Lasserson TJ, Martin S. Pulmonary rehabilitation for chronic obstructive pulmonary disease. *Cochrane Database Syst Rev* 2006;(4):CD003793.

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003793.pub2/pdf>

Background: The widespread application of pulmonary rehabilitation in chronic obstructive pulmonary disease (COPD) should be preceded by demonstrable improvements in function attributable to the programs. This review updates that reported in 2001.

Objectives: To determine the impact of rehabilitation on health-related quality of life (QoL) and exercise capacity in patients with COPD.

Search methods: We identified additional RCTs from the Cochrane Airways Group Specialised Register. Searches were current as of July 2004.

Selection criteria: We selected RCTs of rehabilitation in patients with COPD in which quality of life (QoL) and/or functional (FEC) or maximal (MEC) exercise capacity were measured. Rehabilitation was defined as exercise training for at least four weeks with or without education and/or psychological support. Control groups received conventional community care without rehabilitation.

Data collection and analysis: We calculated weighted mean differences (WMD) using a random-effects model. We requested missing data from the authors of the primary study.

Main results: We included the 23 randomized controlled trials (RCTs) in the 2001 Cochrane review. Eight additional RCTs (for a total of 31) met the inclusion criteria. We found statistically significant improvements for all the outcomes. In four important domains of QoL (Chronic Respiratory Questionnaire scores for Dyspnea, Fatigue, Emotional function and Mastery), the effect was larger than the

minimal clinically important difference of 0.5 units (for example: Dyspnoea score: WMD 1.0 units; 95% confidence interval: 0.8 to 1.3 units; n = 12 trials). Statistically significant improvements were noted in two of the three domains of the St. Georges Respiratory Questionnaire. For FEC and MEC, the effect was small and slightly below the threshold of clinical significance for the six-minute walking distance (WMD: 48 meters; 95% CI: 32 to 65; n = 16 trials).

Koronar hjertesykdom

Shepherd CW, While AE. Cardiac rehabilitation and quality of life: A systematic review. *International Journal of Nursing Studies* 2012;49(6):755-71.

OBJECTIVE: The objective of this systematic review was to explore the effects of cardiac rehabilitation interventions on the quality of life of patients with coronary heart disease with a specific focus on interventions that could be delivered within the context of a publicly funded health service.

DESIGN: Systematic review of trials reporting quality of life data as an outcome measure. Electronic databases (CINAHL, MEDLINE and PsycINFO) were searched from 1 January 1999 to 25 November 2010 in the English language. Inclusion criteria were: randomised controlled trials of cardiac rehabilitation as configured for a publicly funded health service. Data were extracted by one reviewer and checked by a second reviewer.

RESULTS: The 16 papers reported RCTs conducted in nine countries. Fifteen measurement instruments were utilised to measure quality of life across the different studies precluding a meta-analysis. Four themes emerged from the thematic analysis of the selected papers: physical well-being (including fitness and symptoms); psychological well-being (including anxiety and depression); social well-being (including family life and relationships); and functional status (including return to work and previous life style). Physical domain outcomes suggest that cardiac rehabilitation may improve physical well-being and levels of physical activity and thereby improved levels of physical fitness. Both physical and psychological domain outcomes suggest that home-based interventions are at least as effective as centre-based interventions. Relatively few trials reported on quality of life within the social domain and any difference between centre-based and home-based interventions appeared to favour the home-based intervention.

CONCLUSIONS: This review indicates that cardiac rehabilitation improves the quality of life for coronary heart disease patients and that quality of life improvements have a bi-directional relationship with increased physical activity and vocational status. Further research is needed to explore the relationship of quality of life outcomes to cardiac mortality, the relationship between improved physical well-being and anxiety, and the quality of life and mortality effects of cardiac rehabilitation in older people.

Brown James PR, Clark AM, Dalal H, Welch K, Taylor RS. Patient education in the management of coronary heart disease. *Cochrane Database Syst Rev* 2011;(12):CD008895

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008895.pub2/pdf>

Background: Cardiac rehabilitation (CR) is a complex multifaceted intervention consisting of three core modalities: education, exercise training and psychological support. Whilst exercise and psychological interventions for patients with coronary heart disease (CHD) have been the subject of Cochrane systematic reviews, the specific impact of the educational component of CR has not previously been investigated.

Objectives: 1. Assess effects of patient education on mortality, morbidity, health-related quality of life (HRQoL) and healthcare costs in patients with CHD. 2. Explore study level predictors of the effects of patient education (e.g. individual versus group intervention, timing with respect to index cardiac event).

Search methods: The following databases were searched: *The Cochrane Library*, (CENTRAL, CDSR, DARE, HTA, NHSEED), MEDLINE (OVID), EMBASE (OVID), PsycINFO (EBSCOhost) and CINAHL (EBSCOhost). Previous systematic reviews and reference lists of included studies were also searched. No language restrictions were applied.

Selection criteria: 1. Randomised controlled trials (RCTs) where the primary interventional intent was education.

2. Studies with a minimum of six-months follow-up and published in 1990 or later.

3. Adults with diagnosis of CHD.

Data collection and analysis: Two review authors selected studies and extracted data. Attempts were made to contact all study authors to obtain relevant information not available in the published manuscript. For dichotomous variables, risk ratios and 95% confidence intervals (CI) were derived for each outcome. For continuous variables, mean differences and 95% CI were calculated for each outcome.

Main results: Thirteen RCTs involving 68,556 subjects with CHD and follow-up from six to 60 months were found. Overall, methodological quality of included studies was moderate to good. Educational 'dose' ranged from a total of two clinic visits to a four-week residential stay with 11 months of follow-up sessions. Control groups typically received usual medical care. There was no strong evidence of an effect of education on all-cause mortality (Relative Risk (RR): 0.79, 95% CI 0.55 to 1.13), cardiac morbidity (subsequent myocardial infarction RR: 0.63, 95% CI 0.26 to 1.48, revascularization RR: 0.58, 95% CI 0.19 to 1.71) or hospitalization (RR: 0.83, 95% CI: 0.65 to 1.07). Whilst some HRQoL domain scores were higher with education, there was no consistent evidence of superiority across all domains. Different currencies and years studies were performed making direct comparison of healthcare costs challenging, although there is evidence to suggest education may be cost-saving by reducing subsequent healthcare utilisation. This review had insufficient power to exclude clinically important effects of education on mortality and morbidity of patients with CHD.

Allen JK, Dennison CR. Randomized Trials of Nursing Interventions for Secondary Prevention in Patients With Coronary Artery Disease and Heart Failure Systematic Review. J Cardiovasc Nurs 2010;25(3):207-20.

Objective: This systematic review of recent randomized trials was conducted to determine if cardiovascular nursing interventions improve outcomes in patients with coronary artery disease (CAD) and/or heart failure. **Methods:** Randomized controlled trials of nursing interventions in patients with CAD or heart failure published from January 2000 to December 2008 were eligible. Pilot studies and trials with greater than 25% attrition with no intention-to-treat analyses were excluded. Study characteristics and results were extracted and trials were graded for methodological quality. **Results:** A total of 2,039 citations from electronic databases were identified; 55 articles were eligible for inclusion. The primary intervention strategy was education plus behavioral counseling and support (65% of interventions) using a combination of intervention modes. More than half of the trials (57%) reported statistically significant results in at least 1 outcome of blood pressure, lipids, physical activity, dietary intake, cigarette smoking, weight loss, healthcare utilization, mortality, quality of life, and psychosocial outcomes. However, there were no consistent relationships observed between intervention characteristics and the effects of interventions. The average measure of study quality was 2.8 (possible range, 0-4, with higher score equaling higher quality). **Conclusion:** Most trials reviewed demonstrated a beneficial impact of nursing interventions for secondary prevention in patients with

CAD or heart failure. However, the optimal combination of intervention components, including strategy, mode of delivery, frequency, and duration, remains unknown. Establishing consensus regarding outcome measures, inclusion of adequate, representative samples, along with cost-effectiveness analyses will promote translation and adoption of cost-effective nursing interventions.

Muller-Riemenschneider F, Meinhard C, Damm K, Vauth C, Bockelbrink A, Greiner W, et al. Effectiveness of nonpharmacological secondary prevention of coronary heart disease. *European Journal of Cardiovascular Prevention & Rehabilitation* 2010;17(6):688-700.

AIM: To summarize the current evidence with regard to the effectiveness of nonpharmacological secondary prevention strategies of coronary heart disease (CHD) and to investigate the comparative effectiveness of interventions of different categories, specific intervention components and the effectiveness in patient subgroups.

METHODS: A structured search of databases and manual search were conducted. Clinical trials and meta-analyses published between January 2003 and September 2008 were included if they targeted adults with CHD, had a follow-up of at least 12 months, and reported mortality, cardiac events or quality of life. Two researchers assessed eligibility and methodological quality, in which appropriate, pooled effect estimates were calculated and tested in sensitivity analyses.

RESULTS: Of 4798 publications 43 met the inclusion criteria. Overall study quality was satisfactory, but only about half of the studies reported mortality. Follow-up duration varied between 12 and 120 months. Despite substantial heterogeneity, there was strong evidence of intervention effectiveness overall. The evidence for exercise and multimodal interventions was more conclusive for reducing mortality, whereas psychosocial interventions seemed to be more effective in improving the quality of life. Rigorous studies investigating dietary and smoking cessation interventions, specific intervention components and important patient subgroups, were scarce.

CONCLUSION: Nonpharmacological secondary prevention is safe and effective, with exercise and multimodal interventions reducing mortality most substantially. There is a lack of studies concerning dietary and smoking cessation interventions. In addition, intervention effectiveness in patient subgroups and of intervention components could not be evaluated conclusively. Future research should investigate these issues in rigorous studies with appropriate follow-up duration to improve the current poor risk factor control of CHD patients.

Taylor RS, Dalal H, Jolly K, Moxham T, Zawada A. Home-based versus centre-based cardiac rehabilitation. *Cochrane Database Syst Rev* 2010;(1):CD007130.

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007130.pub2/pdf>

Background. The burden of cardiovascular disease world-wide is one of great concern to patients and health care agencies alike. Traditionally centrebased cardiac rehabilitation (CR) programmes are offered to individuals after cardiac events to aid recovery and prevent further cardiac illness. Home-based cardiac rehabilitation programmes have been introduced in an attempt to widen access and participation.

Objectives: To determine the effectiveness of home-based cardiac rehabilitation programmes compared with supervised centre-based cardiac rehabilitation on mortality and morbidity, health-related quality of life and modifiable cardiac risk factors in patients with coronary heart disease.

Search methods: We updated the search of a previous review by searching the Cochrane Central Register of Controlled Trials (CENTRAL) in *The Cochrane Library* (2007, Issue 4), MEDLINE, EMBASE and CINAHL from 2001 to January

2008. We checked reference lists and sought advice from experts. No language restrictions were applied.

Selection criteria: Randomised controlled trials (RCTs) that compared centre-based cardiac rehabilitation (e.g. hospital, gymnasium, sports centre) with home-based programmes, in adults with myocardial infarction, angina, heart failure or who had undergone revascularisation.

Data collection and analysis: Studies were selected independently by two reviewers, and data extracted by a single reviewer and checked by a second one. Authors were contacted where possible to obtain missing information.

Main results: Twelve studies (1,938 participants) met the inclusion criteria. The majority of studies recruited a lower risk patient following an acute myocardial infarction (MI) and revascularisation. There was no difference in outcomes of home-versus centre-based cardiac rehabilitation in mortality risk ratio (RR) was 1.31 (95% confidence interval (C) 0.65 to 2.66), cardiac events, exercise capacity standardised mean difference (SMD) -0.11 (95%CI -0.35 to 0.13), as well as inmodifiable risk factors (systolic blood pressure; diastolic blood pressure; total cholesterol; HDL-cholesterol; LDL-cholesterol) or proportion of smokers at follow up or health-related quality of life. There was no consistent difference in the healthcare costs of the two forms of cardiac rehabilitation.

McGillion M, Arthur H, Victor JC, Watt-Watson J, Cosman T. Effectiveness of psychoeducational interventions for improving symptoms, health-related quality of life, and psychological well being in patients with stable angina. Current Cardiology Reviews 2008;4(1):February.

Several primary trials report the adjunctive value of psychoeducational interventions for improving stable angina symptoms, health-related quality of life (HRQL) and psychological well-being; however, few high-quality meta-analyses have examined the overall effectiveness of these interventions. We used meta-analysis in order to determine the effectiveness of psychoeducational interventions for improving symptoms, HRQL and psychological well-being in stable angina patients. Seven trials, involving 949 participants total were included. Those who received psychoeducation experienced nearly 3 less angina episodes per week, delta (Delta)= -2.85, 95% CI, -4.04 to -1.66, and used sublingual (SL) nitrates approximately 4 times less per week, Delta= -3.69, 95% CI -5.50 to -1.89, post-intervention (3-6 months). Significant HRQL improvements (Seattle Angina Questionnaire) were also found for physical limitation, Delta= 8.00, 95% CI 4.23 to 11.77, and disease perception, Delta= 4.46, 95% CI 0.15 to 8.77, but CIs were broad. A pooled estimate of effect on psychological well-being was not possible due to heterogeneity of measures. Psychoeducational interventions may significantly reduce angina frequency and decrease SL nitrate use in the short-term. These encouraging results must be interpreted with caution due to heterogeneity in methods and small samples. Larger, robust trials are needed to further determine the effectiveness of psychoeducation for stable angina management.

Hjertesvikt

Drewes HW, Steuten LMG, Lemmens LC, Baan CA, Boshuizen HC, Elissen AMJ, et al. The Effectiveness of Chronic Care Management for Heart Failure: Meta-Regression Analyses to Explain the Heterogeneity in Outcomes. Health Serv Res 2012;47(5):1926-59.

OBJECTIVE: To support decision making on how to best redesign chronic care by studying the heterogeneity in effectiveness across chronic care management evaluations for heart failure.

DATA SOURCES: Reviews and primary studies that evaluated chronic care management interventions.

STUDY DESIGN: A systematic review including meta-regression analyses to investigate three potential sources of heterogeneity in effectiveness: study quality, length of follow-up, and number of chronic care model components.

PRINCIPAL FINDINGS: Our meta-analysis showed that chronic care management reduces mortality by a mean of 18 percent (95 percent CI: 0.72-0.94) and hospitalization by a mean of 18 percent (95 percent CI: 0.76-0.93) and improves quality of life by 7.14 points (95 percent CI: -9.55 to -4.72) on the Minnesota Living with Heart Failure questionnaire. We could not explain the considerable differences in hospitalization and quality of life across the studies.

CONCLUSION: Chronic care management significantly reduces mortality. Positive effects on hospitalization and quality of life were shown, however, with substantial heterogeneity in effectiveness. This heterogeneity is not explained by study quality, length of follow-up, or the number of chronic care model components. More attention to the development and implementation of chronic care management is needed to support informed decision making on how to best redesign chronic care.

Boyde M, Turner C, Thompson DR, Stewart S. Educational interventions for patients with heart failure: a systematic review of randomized controlled trials. Database of Abstracts of Reviews of Effects 2011;E27-E35.

BACKGROUND: Patient education is an important intervention for the management of heart failure; however, in practice patient education varies considerably.

AIM: To systematically review educational interventions that have been implemented for heart failure patients and assess their effectiveness.

METHODS: Randomized controlled trials from 1998 to 2008 in CINAHL, MEDLINE, PsychInfo, EMBASE, and Cochrane were reviewed using the following search terms: patient education, education, educational intervention, self-care in combination with heart failure. There were 1515 abstracts reviewed independently by 2 reviewers.

RESULTS: A total of 2686 patients were included in the 19 studies that met the inclusion criteria. Commonly, the initial educational intervention was a one-on-one didactic session conducted by nurses supplemented by written materials and multimedia approaches. Seven studies referred to a theoretical model as a framework for their educational intervention. Studies used a variety of outcome measures to evaluate their effectiveness. Of the studies reviewed, 15 demonstrated a significant effect from their intervention in at least one of their outcome measures.

CONCLUSION: All we hope from patient education has not yet been realized. Despite improvements in knowledge, we have variable results in outcomes, and this is very likely related to the heterogeneity of the studies included in this review. It was difficult to establish the most effective educational strategy as the educational interventions varied considerably in delivery methods and duration as well as the outcome measures that were used for the evaluation. A patient-centered approach to education based on educational theory and evaluated appropriately may assist to develop an evidence base for patient education.

Ditewig JB, Blok H, Havers J, van VH. Effectiveness of self-management interventions on mortality, hospital readmissions, chronic heart failure hospitalization rate and quality of life in patients with chronic heart failure: A systematic review. Patient Education and Counseling 2010;78(3):March

OBJECTIVE: This review examined the effectiveness of self-management interventions compared to usual care on mortality, all-cause hospital readmissions, chronic heart failure hospitalization rate and quality of life in patients with chronic heart failure.

METHODS: A systematic review was performed. MEDLINE, EMBASE, CINAHL and the Cochrane Library were searched between 1996 and 2009. Randomized controlled trials were selected evaluating self-management interventions designed for patients with chronic heart failure. Outcomes of interest are mortality, all-cause hospital readmissions, chronic heart failure hospitalization rate and quality of life.

RESULTS: Nineteen randomized controlled trials were identified. The effectiveness of heart failure management programs initiating self-management interventions in patients with chronic heart failure indicate a positive effect, although not always significant, on reduction of numbers of all-cause hospital readmitted patients and due to chronic heart failure, decrease in mortality and increasing quality of life.

CONCLUSION: This systematic review found that current available published studies show methodological shortcomings impairing validation of the effectiveness of self-management interventions on mortality, all-cause hospital readmissions, chronic heart failure hospitalization rate and quality of life in patients with chronic heart failure.

PRACTICE IMPLICATIONS: Further research should determine independent effects of self-management interventions and different combinations of interventions on clinical and patient reported outcomes.

Inglis SC, Clark RA, McAlister FA, Ball J, Lewinter C, Cullington D, et al. Structured telephone support or telemonitoring programmes for patients with chronic heart failure. *Cochrane Database Syst Rev* 2010;(8):CD007228.

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007228.pub2/pdf>

Background: Specialised disease management programmes for chronic heart failure (CHF) improve survival, quality of life and reduce healthcare utilisation. The overall efficacy of structured telephone support or telemonitoring as an individual component of a CHF disease management strategy remains inconclusive.

Objectives: To review randomised controlled trials (RCTs) of structured telephone support or telemonitoring compared to standard practice for patients with CHF in order to quantify the effects of these interventions over and above usual care for these patients.

Search methods: Databases (the Cochrane Central Register of Controlled Trials (CENTRAL), Database of Abstracts of Reviews of Effects (DARE) and Health Technology Assessment Database (HTA) on *The Cochrane Library*, MEDLINE, EMBASE, CINAHL, AMED and Science Citation Index Expanded and Conference Citation Index on ISI Web of Knowledge) and various search engines were searched from 2006 to November 2008 to update a previously published non-Cochrane review. Bibliographies of relevant studies and systematic reviews and abstract conference proceedings were handsearched. No language limits were applied.

Selection criteria: Only peer reviewed, published RCTs comparing structured telephone support or telemonitoring to usual care of CHF patients were included. Unpublished abstract data was included in sensitivity analyses. The intervention or usual care could not include a home visit or more than the usual (four to six weeks) clinic follow-up.

Data collection and analysis: Data were presented as risk ratio (RR) with 95% confidence intervals (CI). Primary outcomes included all-cause mortality, all-cause

and CHF-related hospitalisations which were meta-analysed using fixed effects models. Other outcomes included length of stay, quality of life, acceptability and cost and these were described and tabulated.

Main results: Twenty-five studies and five published abstracts were included. Of the 25 full peer-reviewed studies meta-analysed, 16 evaluated structured telephone support (5613 participants), 11 evaluated telemonitoring (2710 participants), and two tested both interventions (included in counts). Telemonitoring reduced all-cause mortality (RR 0.66, 95%CI 0.54 to 0.81, $P < 0.0001$) with structured telephone support demonstrating a non-significant positive effect (RR 0.88, 95% CI 0.76 to 1.01, $P = 0.08$). Both structured telephone support (RR 0.77, 95% CI 0.68 to 0.87, $P < 0.0001$) and telemonitoring (RR 0.79, 95% CI 0.67 to 0.94, $P = 0.008$) reduced CHF-related hospitalisations. For both interventions, several studies improved quality of life, reduced healthcare costs and were acceptable to patients. Improvements in prescribing, patient knowledge and self-care, and New York Heart Association (NYHA) functional class were observed.

Boren SA, Wakefield BJ, Gunlock TL, Wakefield DS. Heart failure self-management education: a systematic review of the evidence. Int 2009;7(3):159-68.

OBJECTIVE: The objective of this systematic review is to identify educational content and techniques that lead to successful patient self-management and improved outcomes in congestive heart failure education programs.

METHODS: MEDLINE, CINAHL and the Cochrane Central Register of Controlled Trials, as well as reference lists of included studies and relevant reviews, were searched. Eligible studies were randomised controlled trials evaluating congestive heart failure self-management education programs with outcome measures. Two of the investigators independently abstracted descriptive information, education content topics and outcomes data.

RESULTS: A total of 7413 patients participated in the 35 eligible congestive heart failure self-management education studies. The congestive heart failure self-management programs incorporated 20 education topics in four categories: (i) knowledge and self-management (diagnosis and prognosis, pathophysiology of how congestive heart failure affects the body, aims of treatment, management and symptoms, medication review and discussion of side-effects, knowing when to access/call the general practitioner, communication with the physician, follow up for assessment or reinforcement); (ii) social interaction and support (social interaction and support, stress, depression); (iii) fluids management (sodium restriction, fluid balance, daily measurement of weight, ankle circumference, self-monitoring and compliance relative to fluids); and (iv) diet and activity (dietary assessment and instructions, physical activity and exercise, alcohol intake, smoking cessation). A total of 113 unique outcomes in nine categories (satisfaction, learning, behaviour, medications, clinical status, social functioning, mortality, medical resource utilisation and cost) were measured in the studies. Sixty (53%) of the outcomes showed significant improvement in at least one study.

CONCLUSION: Educational interventions should be based on scientifically sound research evidence. The education topic list developed in this review can be used by patients and clinicians to priorities and personalize education.

Diabetes

Steinsbekk A, Rygg LO, Lisulo M, Rise MB, Fretheim A. Group based diabetes self-management education compared to routine treatment for people with type 2 diabetes mellitus. A systematic review with meta-analysis. BMC Health Serv Res 2012;12:213.

BACKGROUND: Diabetes self-management education (DSME) can be delivered in many forms. Group based DSME is widespread due to being a cheaper method and the added advantages of having patient meet and discuss with each other. assess effects of group-based DSME compared to routine treatment on clinical, lifestyle and psychosocial outcomes in type-2 diabetes patients.

METHODS: A systematic review with meta-analysis. Computerised bibliographic database were searched up to January 2008 for randomised controlled trials evaluating group-based DSME for adult type-2 diabetics versus routine treatment where the intervention had at least one session and \geq 6 months follow-up. At least two reviewers independently extracted data and assessed study quality.

RESULTS: In total 21 studies (26 publications, 2833 participants) were included. Of all the participants 4 out of 10 were male, baseline age was 60 years, BMI 31.6, HbA1c 8.23%, diabetes duration 8 years and 82% used medication. For the main clinical outcomes, HbA1c was significantly reduced at 6 months (0.44% points; $P=0.0006$, 13 studies, 1883 participants), 12 months (0.46% points; $P=0.001$, 11 studies, 1503 participants) and 2 years (0.87% points; $P<0.00001$, 3 studies, 397 participants) and fasting blood glucose levels were also significantly reduced at 12 months (1.26 mmol/l; $P<0.00001$, 5 studies, 690 participants) but not at 6 months. For the main lifestyle outcomes, diabetes knowledge was improved significantly at 6 months (SMD 0.83; $P=0.00001$, 6 studies, 768 participants), 12 months (SMD 0.85; $P<0.00001$, 5 studies, 955 participants) and 2 years (SMD 1.59; $P=0.03$, 2 studies, 355 participants) and self-management skills also improved significantly at 6 months (SMD 0.55; $P=0.01$, 4 studies, 534 participants). For the main psychosocial outcomes, there were significant improvement for empowerment/self-efficacy (SMD 0.28, $P=0.01$, 2 studies, 326 participants) after 6 months. For quality of life no conclusion could be drawn due to high heterogeneity. For the secondary outcomes there were significant improvements in patient satisfaction and body weight at 12 months for the intervention group. There were no differences between the groups in mortality rate, body mass index, blood pressure and lipid profile.

CONCLUSIONS: Group-based DSME in people with type 2 diabetes results in improvements in clinical, lifestyle and psychosocial outcomes

Polisena J, Tran K, Cimon K, Hutton B, McGill S, Palmer K. Home telehealth for diabetes management: A systematic review and meta-analysis. *Diabetes, Obesity and Metabolism* 2009;11(10):October.

AIM: It is estimated that more than 180 million people worldwide have diabetes. Health-care providers can remotely deliver health services to this patient population using information and communication technology, also known as home telehealth. Home telehealth may be classified into two subtypes: home telemonitoring (HTM) and telephone support (TS). The research objective was to systematically review the literature and perform meta-analyses to assess the potential benefits of home telehealth compared with usual care (UC) for patients with diabetes.

METHODS: An electronic literature search was conducted to identify studies on home telehealth and patients with diabetes that were published between 1998 and 2008 using Medline, Medline In-Process & Other Non-Indexed Citations, BIOSIS Previews and EMBASE.

RESULTS: Twenty-six studies ($n = 5069$ patients) on home telehealth for diabetes were selected. Twenty-one studies evaluated HTM and 5 randomized controlled trials assessed TS. HTM had a positive effect on glycaemic control [as measured by lower glycated haemoglobin level] compared with UC (weighted mean difference = -0.21; 95% confidence interval -0.35 to -0.08), but the results were mixed for TS. Study results indicated that home telehealth helps to reduce the number of patients hospitalized, hospitalizations and bed days of care. Home telehealth was similar or favourable to UC across studies for quality-of-life and patient satisfaction outcomes.

CONCLUSIONS: In general, home telehealth had a positive impact on the use of numerous health services and glycaemic control. More studies of higher methodological quality are required to give more precise insights into the potential clinical effectiveness of home telehealth interventions.

Zhang XP, Norris SL, Chowdhury FM, Gregg EW, Zhang P. The effects of interventions on health-related quality of life among persons with diabetes - A systematic review. *Medical Care* 2007;45(9):820-34.

BACKGROUND: Health-related quality of life (HRQL) is increasingly used to measure the outcomes of interventions among people with chronic diseases.

OBJECTIVES: To assess the effect of interventions for adults with diabetes on HRQL, as measured by the Short Form (SF)-36 questionnaire.

RESEARCH DESIGN: The systematic review was conducted using the methods of the Cochrane Collaboration. Studies reporting SF-36 scores before and after an intervention focused on adults with diabetes were obtained from searches of multiple bibliographic databases. The mean changes and standardized mean differences between pre- and post-intervention were reported as outcome measures. Pooled estimates were obtained using random effects models.

RESULTS: We identified 33 studies examining a wide range of interventions, including diabetes education and behavioral modifications (15 studies), pharmacotherapy (11 studies), and surgery (7 studies). Interventions generally demonstrated improvement in HRQL. When all available profile scores were examined together, the ranges of mean changes in scores were as follows: surgery for treating diabetes comorbidities, 15.0 to 42.0 point improvement; surgery for treating diabetes complications, -13.0 to 37.9; pharmacotherapy using insulin to optimize glycemic control, -4.6 to 27.6; pharmacotherapy for treating comorbidities, 3.8 to 33.2; pharmacotherapy for treating complications, -2.6 to 14.6. Pooled effects from 5 randomized controlled trials of educational interventions demonstrated significantly improved physical function [3.4 (95% CI, 0.1-6.6)] and mental health [4.2 (95% CI, 1.8-6.6)], and a decrease in bodily pain [3.6 (95% CI, 0.6-6.7)].

CONCLUSIONS: A variety of interventions can improve HRQL among adults with diabetes, but the magnitude of effects varied with the interventions. The mechanism of these changes needs to be further examined in the future research.

Muskelskjelett sykdommer

Oliveira VC, Ferreira PH, Maher CG, Pinto RZ, Refshauge KM, Ferreira ML. Effectiveness of self-management of low back pain: Systematic review with meta-analysis. *Arthritis Care Res (Hoboken)* 2012;64(11):November

OBJECTIVE: To determine the effectiveness of self-management for nonspecific low back pain (LBP).

METHODS: We performed a systematic review searching the Medline, Embase, CINAHL, PsycINFO, LILACS, PEDro, AMED, SPORTDiscus, and Cochrane databases from earliest record to April 2011. Randomized controlled trials evaluating self-management for nonspecific LBP and assessing pain and disability were included. The PEDro scale was used to assess the methodologic quality of included trials. Data were pooled where studies were sufficiently homogenous. Analyses were conducted separately for short- (less than 6 months after randomization) and long-term (at least 12 months after randomization) followup. Six criteria for self-management were used to assess the content of the intervention.

RESULTS: The search identified 2,325 titles, of which 13 original trials were included. Moderate-quality evidence showed that self-management is effective for im-

proving pain and disability for people with LBP. The weighted mean difference at short-term followup for pain was -3.2 points on a 0-100 scale (95% confidence interval [95% CI] -5.1, -1.3) and for disability was -2.3 points (95% CI -3.7, -1.0). The long-term effects were -4.8 (95% CI -7.1, -2.5) for pain and -2.1 (95% CI -3.6, -0.6) for disability.

CONCLUSION: There is moderate-quality evidence that self-management has small effects on pain and disability in people with LBP. These results challenge the endorsement of self-management in treatment guidelines.

Meeus M, Nijs J, Hamers V, Ickmans K, Van Oosterwijck J. The Efficacy of Patient Education in Whiplash Associated Disorders: A Systematic Review. *Pain Physician* 2012;15(5):351-61.

BACKGROUND: Until now, there is no firm evidence for conservative therapy in patients with chronic Whiplash Associated Disorders (WAD). While chronic WAD is a biopsychosocial problem, education may be an essential part in the treatment and the prevention of chronic WAD. However, it is still unclear which type of educative intervention has already been used in WAD patients and how effective such interventions are.

OBJECTIVE: This systematic literature study aimed at providing an overview of the literature regarding the currently existing educative treatments for patients with whiplash or WAD and their evidence.

STUDY DESIGN: Systematic review of the literature.

METHODS: A systematic literature search was conducted in the following databases: Pubmed, Springerlink, and Web of Science using different keyword combinations. We included randomized controlled clinical trials (RCT) that encompass the effectiveness of education for patients with WAD. The included articles were evaluated on their methodological quality.

RESULTS: Ten RCT's of moderate to good quality remained after screening. Both oral and written advice, education integrated in exercise programs and behavioral programs appear effective interventions for reducing pain and disability and enhancing recovery and mobility in patients with WAD. In acute WAD, a simple oral education session will suffice. In subacute or chronic patients broader (multidisciplinary) programs including education which tend to modulate pain behavior and activate patients seems necessary.

LIMITATIONS: Because of limited studies and the broad range of different formats and contents of education and different outcome measures, further research is needed before solid conclusions can be drawn regarding the use and the modalities of these educational interventions in clinical practice.

CONCLUSION: Based on this systematic literature study it seems appropriate for the pain physician to provide education as part of a biopsychosocial approach of patients with whiplash. Such education should target removing therapy barriers, enhancing therapy compliance and preventing and treating chronicity. Still, more studies are required to provide firm evidence for the type, duration, format, and efficacy of education in the different types of whiplash patients.

Du S, Yuan C, Xiao X, Chu J, Qiu Y, Qian H. Self-management programs for chronic musculoskeletal pain conditions: A systematic review and meta-analysis. *Patient Education and Counseling* 2011;85(3):December.

OBJECTIVE: To evaluate the effectiveness of self-management programs on pain and disability for chronic musculoskeletal pain conditions by systematic review.

METHODS: A search of randomized controlled trials was conducted in Medline and Embase from 1970s to 2010. Two reviewers independently selected trials, con-

ducted critical appraisal of the methodological quality, and extracted the data. Meta-analyses were performed using all time-points meta-analysis (ATM).

RESULTS: Nineteen trials met inclusion criteria. For arthritis, the findings of this study showed that self-management programs have small to moderate effects in improving pain and disability at the long-term level, but the medium-term effect for disability is not significant. For chronic back pain, there is insufficient evidence to determine the effectiveness of self-management programs.

CONCLUSION: The encouraging evidence of this study indicates that it is recommended to provide self-management programs to adult patients with arthritis. Further research is needed on self-management for chronic back pain.

PRACTICE IMPLICATIONS: Self-management is a safe, community-based and effective way for patients with arthritis to manage pain and disability. Core skills of self-management should be delivered using multiple approaches.

Louw A, Diener I, Butler DS, Puentedura EJ. The effect of neuroscience education on pain, disability, anxiety, and stress in chronic musculoskeletal pain. *Archives of Physical Medicine & Rehabilitation* 2011;92(12):2041-56.

OBJECTIVE: To evaluate the evidence for the effectiveness of neuroscience education (NE) for pain, disability, anxiety, and stress in chronic musculoskeletal (MSK) pain.

DATA SOURCES: Systematic searches were conducted on Biomed Central, BMJ.com, CINAHL, the Cochrane Library, NLM Central Gateway, OVID, ProQuest (Digital Dissertations), PsycInfo, PubMed/Medline, ScienceDirect, and Web of Science. Secondary searching (PEARLing) was undertaken, whereby reference lists of the selected articles were reviewed for additional references not identified in the primary search.

STUDY SELECTION: All experimental studies including randomized controlled trials (RCTs), nonrandomized clinical trials, and case series evaluating the effect of NE on pain, disability, anxiety, and stress for chronic MSK pain were considered for inclusion. Additional limitations: studies published in English, published within the last 10 years, and patients older than 18 years. No limitations were set on specific outcome measures of pain, disability, anxiety, and stress.

DATA EXTRACTION: Data were extracted using the participants, interventions, comparison, and outcomes (PICO) approach.

DATA SYNTHESIS: Methodological quality was assessed by 2 reviewers using the Critical Review Form-Quantitative Studies. This review includes 8 studies comprising 6 high-quality RCTs, 1 pseudo-RCT, and 1 comparative study involving 401 subjects. Most articles were of good quality, with no studies rated as poor or fair. Heterogeneity across the studies with respect to participants, interventions evaluated, and outcome measures used prevented meta-analyses. Narrative synthesis of results, based on effect size, established compelling evidence that NE may be effective in reducing pain ratings, increasing function, addressing catastrophization, and improving movement in chronic MSK pain.

CONCLUSIONS: For chronic MSK pain disorders, there is compelling evidence that an educational strategy addressing neurophysiology and neurobiology of pain can have a positive effect on pain, disability, catastrophization, and physical performance.

Neurologiske sykdommer

Kuspinar A, Rodriguez AM, Mayo NE. The effects of clinical interventions on health-related quality of life in multiple sclerosis: a meta-analysis. *Mult Scler* 012;18(12):1686-704.

The objective is to estimate the extent to which existing health care interventions designed specifically to target health-related quality of life (HRQL) in persons with multiple sclerosis (MS) achieve this aim. The structured literature search was conducted using multiple electronic databases including Ovid MEDLINE, EMBASE, Cumulative Index to Nursing and Allied Health Literature and the Cochrane Central Register of Controlled Trial, for the years 1960 to 2011. The methodological quality of selected randomized controlled trials (RCTs) was assessed using the Cochrane Collaboration's recommended domain-based method. Effect size (ES) was used to measure the effect of each intervention on HRQL. The studies were combined using a random-effects model to account for inter-study variation. Heterogeneity was tested for using the I-test and publication bias was assessed using funnel plots and the Egger weighted regression statistic. Thirty-nine RCTs met the criteria, all with acceptable methodological quality. Six major types of interventions were identified through the search. The smallest effect was observed for self-management and complementary and alternative medicine (ES=0.2), followed by medication (ES=0.3) then cognitive training and exercise (ES=0.4), and psychological interventions to improve mood (ES=0.7). The magnitude of positive effect on HRQL varied between the different types of interventions. The extent to which interventions are able to improve HRQL depends on delivering a potent intervention to those persons who have the potential to benefit.

Graven C, Brock K, Hill K, Joubert L. Are rehabilitation and/or care co-ordination in tervene tions delivered in the community effective in reducing depression, facilitating participation and improving quality of life after stroke? Disability & Rehabilitation 2011;33(17-18):1501-20.

PURPOSE: To conduct a systematic review to explore the effectiveness of community-based rehabilitation interventions delivered by allied health professionals and/or nursing staff in reducing depression, facilitating participation and improving health-related quality of life (HRQoL) post-inpatient stroke rehabilitation.

METHOD: A search was conducted in the databases of MEDLINE, PEDro, CINAHL and the Cochrane Library. Publications were classified into categories based on the type of the interventions. Best evidence synthesis and meta-analysis were utilised to determine the level of evidence.

RESULTS: Fifty-four studies were included in the review, and divided into nine broad intervention categories. Meta-analysis demonstrated significant reduction in depression with exercise interventions (n=137; effect estimate SMD: -2.03, 95%CI: -3.22, -0.85). Community-based interventions targeting participation and leisure domains showed moderate evidence for improvement in global participation measures and HRQoL. Comprehensive rehabilitation demonstrated limited evidence for depression and participation, and strong evidence for HRQoL.

CONCLUSIONS: There is limited to moderate evidence supporting some rehabilitation interventions in affecting the outcomes of depression, participation and HRQoL post-stroke. Heterogeneity of the studies made evidence synthesis difficult. Further consideration needs to be given to the type and timing of outcome measures selected to represent the domains of participation and HRQoL.

Bradley PM, Lindsay B. Care delivery and self-management strategies for adults with epilepsy. Cochrane Database of Systematic Reviews (1) , 2008 Article Number: CD006244 Date of Publication: 2008 2008;(1):CD006244.

Background: Epilepsy care has been criticised for its lack of impact. Various servicemodels and strategies have been developed in response to perceived inadequacies in care provision.

Objectives: To compare the effectiveness of any specialised or dedicated intervention for the care of adults with epilepsy to the effectiveness of usual care.

Search methods: We searched the Cochrane Central Register of Controlled Trials (CENTRAL) (*The Cochrane Library* Issue 2, 2006), MEDLINE (1966 to May 2006), EMBASE (1988 to May 2006), PsychINFO (1806 to May 2006) and CINAHL (1982 to May 2006).

Selection criteria: Randomised controlled trials, controlled or matched trials, cohort studies or other prospective studies with a control group, or time series studies.

Data collection and analysis: Each review author independently selected studies, extracted data and assessed the quality of included studies.

Main results: There are 13 trials and 16 reports included in this review. Seven distinct groups of interventions were identified: seven papers reported on five trials of specialist epilepsy nurses. Of the 13 trials, at least three (four reports) have methodological weaknesses, and some of the results from other analyses within studies need to be interpreted with caution because of limiting factors in the studies. Consequently, there is currently limited evidence for the effectiveness of interventions to improve the health and life quality of people with epilepsy. It was not possible to combine study results in a meta-analysis because of the heterogeneity of outcomes, study populations, interventions, and time scales across the studies.

Andre diagnoser

Savage E, Beirne PV, Chroinin MN, Duff A, Fitzgerald T, Farrell D. Self-management education for cystic fibrosis. *Cochrane Database Syst Rev* 2011;(7):CD007641.

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007641.pub2/pdf>

Background: Self-management education may help patients with cystic fibrosis and their families to choose, monitor and adjust treatment requirements for their illness, and also to manage the effects of illness on their lives. Although self-management education interventions have been developed for cystic fibrosis, no previous systematic review of the evidence of effectiveness of these interventions has been conducted.

Objectives: To assess the effects of self-management education interventions on improving health outcomes for patients with cystic fibrosis and their caregivers

Search methods: We searched the Cochrane Cystic Fibrosis and Genetic Disorders Group Trials Register (date of the last search: 23 February 2011). We also searched databases through EBSCO (CINAHL; Psychological and Behavioural Sciences Collection; PsychInfo; SocINDEX) and Elsevier (EMBASE) and handsearched relevant journals and conference proceedings (date of the last searches: 30th March 2011).

Selection criteria: Randomised controlled trials, quasi-randomised controlled trials or controlled clinical trials comparing different types of self-management education for cystic fibrosis or comparing self-management education with standard care or no intervention.

Data collection and analysis: Two authors assessed trial eligibility and risk of bias. Three authors extracted data.

Main results: Four trials (involving a total of 269 participants) were included. The participants were children with cystic fibrosis and their parents or caregivers in three trials and adults with cystic fibrosis in one trial. The trials compared four different self-management education interventions versus standard treatment: (1) a training programme for managing cystic fibrosis in general; (2) education specific to Self-management aerosol and airway clearance treatments; (3) disease-specific nutrition education; and (4) general and disease-specific nutrition education. Training children to manage cystic fibrosis in general had no statistically significant effects on weight after six to eight weeks, mean difference -7.74 lb (95% confidence interval -35.18 to 19.70). General and disease-specific nutrition education for

adults had no statistically significant effects on: pulmonary function (forced expiratory volume at one second), mean difference -5.00 % (95% confidence interval -8.10 to 8.10) at six months and mean difference -5.50 % (95% confidence interval -18.46 to 7.46) at 12 months; or weight, mean difference -0.70 kg (95% confidence interval -6.58 to 5.18) at six months and mean difference -0.70 kg (95% confidence interval -6.62 to 5.22) at 12 months; or dietary fat intake scores, mean difference 1.60 (85% confidence interval -2.90 to 6.10) at six months and mean difference 0.20 (95% confidence interval -4.08 to 4.48) at 12 months. There is some limited evidence to suggest that self-management education may improve knowledge in patients with cystic fibrosis but not in parents or caregivers. There is also some limited evidence to suggest that self-management education may result in positively changing a small number of behaviours in both patients and caregivers.

Riemsma RP, Kirwan JR, Taal E, Rasker H, JJ. Patient education for adults with rheumatoid arthritis. *Cochrane Database Syst Rev* 2003;(2):CD003688

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003688/pdf>

Background: Because of the unpredictability people with arthritis face on a daily basis, patient education programmes have become an effective complement to traditional medical treatment giving people with arthritis the strategies and the tools necessary to make daily decisions to cope with the disease.

Objectives: To assess the effectiveness of patient education interventions on health status in patients with rheumatoid arthritis.

Search methods: We searched MEDLINE, EMBASE and PsycINFO and the Cochrane Controlled Trials Register. A selection of review articles (see references) were examined to identify further relevant publications. There was no language restriction.

Selection criteria: Randomised controlled trials (RCT's) evaluating patient education interventions that included an instructional component and a nonintervention control group; pre- and post-test results available separately for RA, either in the publication or from the studies' authors; and study results presented in full, end-of-study report.

Data collection and analysis: Two reviewers examined and screened search results. Dichotomous items were summarized as relative risk. Standardized mean difference and weighted mean difference were calculated for continuous data. Heterogeneity was assessed using chi square.

Main results: Thirty-one studies with relevant data were included. We found significant effects of patient education at first follow-up for scores on disability, joint counts, patient global assessment, psychological status, and depression. A trend favouring patient education was found for scores on pain. Physician global assessment was not assessed in any of the included studies. The dimensions of anxiety and disease activity showed no significant effects. At final follow up no significant effects of patient education were found, although there was a trend favouring patient education for scores on disability.

Tsai AC, Morton SC, Mangione CM, Keeler EB. A meta-analysis of interventions to improve care for chronic illnesses. *Am J Manag Care* 2005;11(8):August.

OBJECTIVE: To use empirical data from previously published literature to address 2 research questions: (1) Do interventions that incorporate at least 1 element of the Chronic Care Model (CCM) result in improved outcomes for specific chronic illnesses? (2) Are any elements essential for improved outcomes?

STUDY DESIGN: Meta-analysis.

METHODS: Articles were identified from narrative literature reviews and quantitative meta-analyses, each of which covered multiple bibliographic databases from inception to March 2003. We supplemented this strategy by searching the MEDLINE database (1998-2003) and by consulting experts. We included randomized and nonrandomized controlled trials of interventions that contained 1 or more elements of the CCM for asthma, congestive heart failure (CHF), depression, and diabetes. We extracted data on clinical outcomes, quality of life, and processes of care. We then used random-effects modeling to compute pooled standardized effect sizes and risk ratios.

RESULTS: Of 1345 abstracts screened, 112 studies contributed data to the meta-analysis: asthma, 27 studies; CHF, 21 studies; depression, 33 studies; and diabetes, 31 studies. Interventions with at least 1 CCM element had consistently beneficial effects on clinical outcomes and processes of care across all conditions studied. The effects on quality of life were mixed, with only the CHF and depression studies showing benefit. Publication bias was noted for the CHF studies and a subset of the asthma studies.

CONCLUSIONS: Interventions that contain at least 1 CCM element improve clinical outcomes and processes of care--and to a lesser extent, quality of life--for patients with chronic illnesses.

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