

Rehabilitation of breast cancer patients

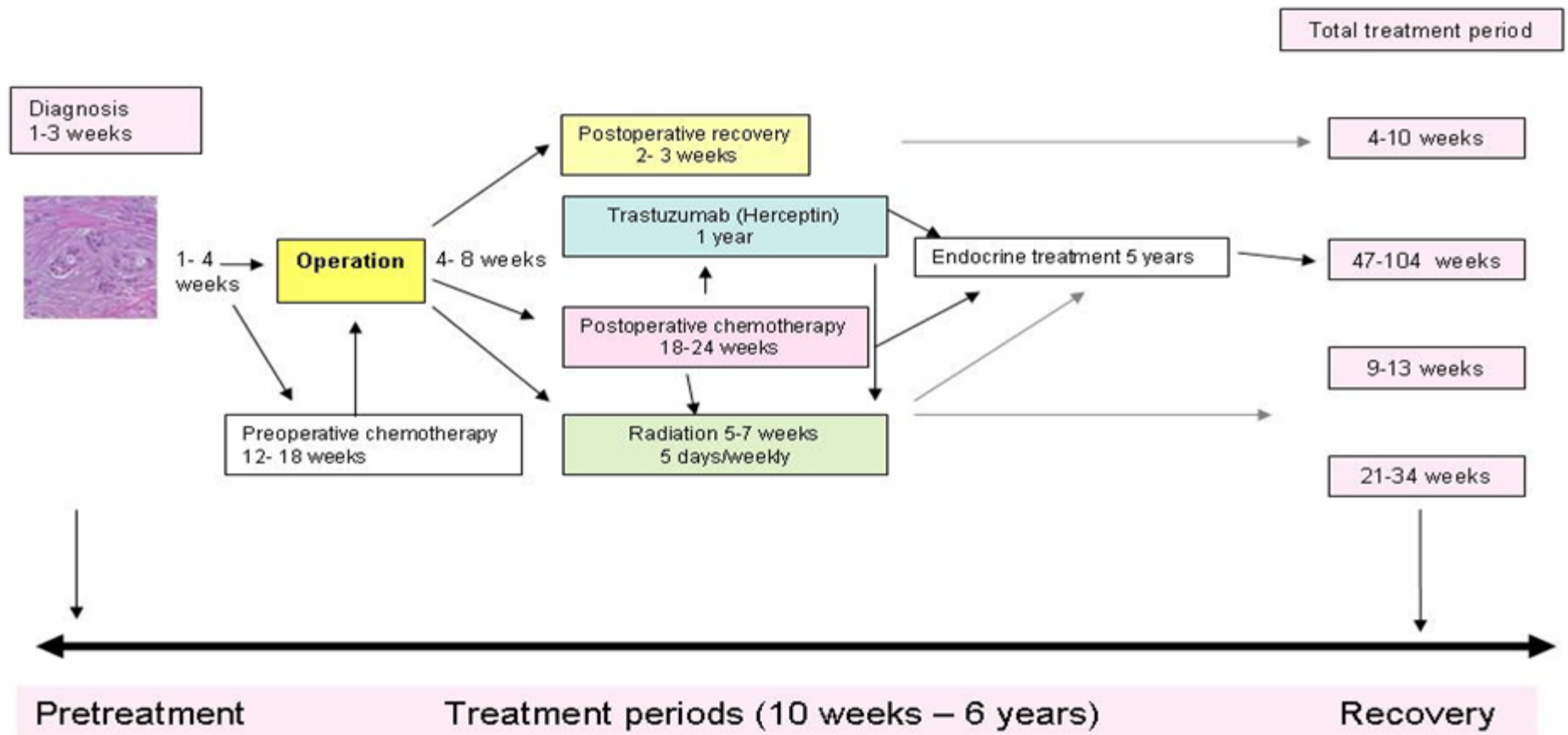
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Breast cancer treatment



Aim of the report

- The aim of this report is to systematically review the literature regarding the effects of rehabilitation of breast cancer patients
 - With respect to improvements in
 - physical functionality
 - psychological well-being



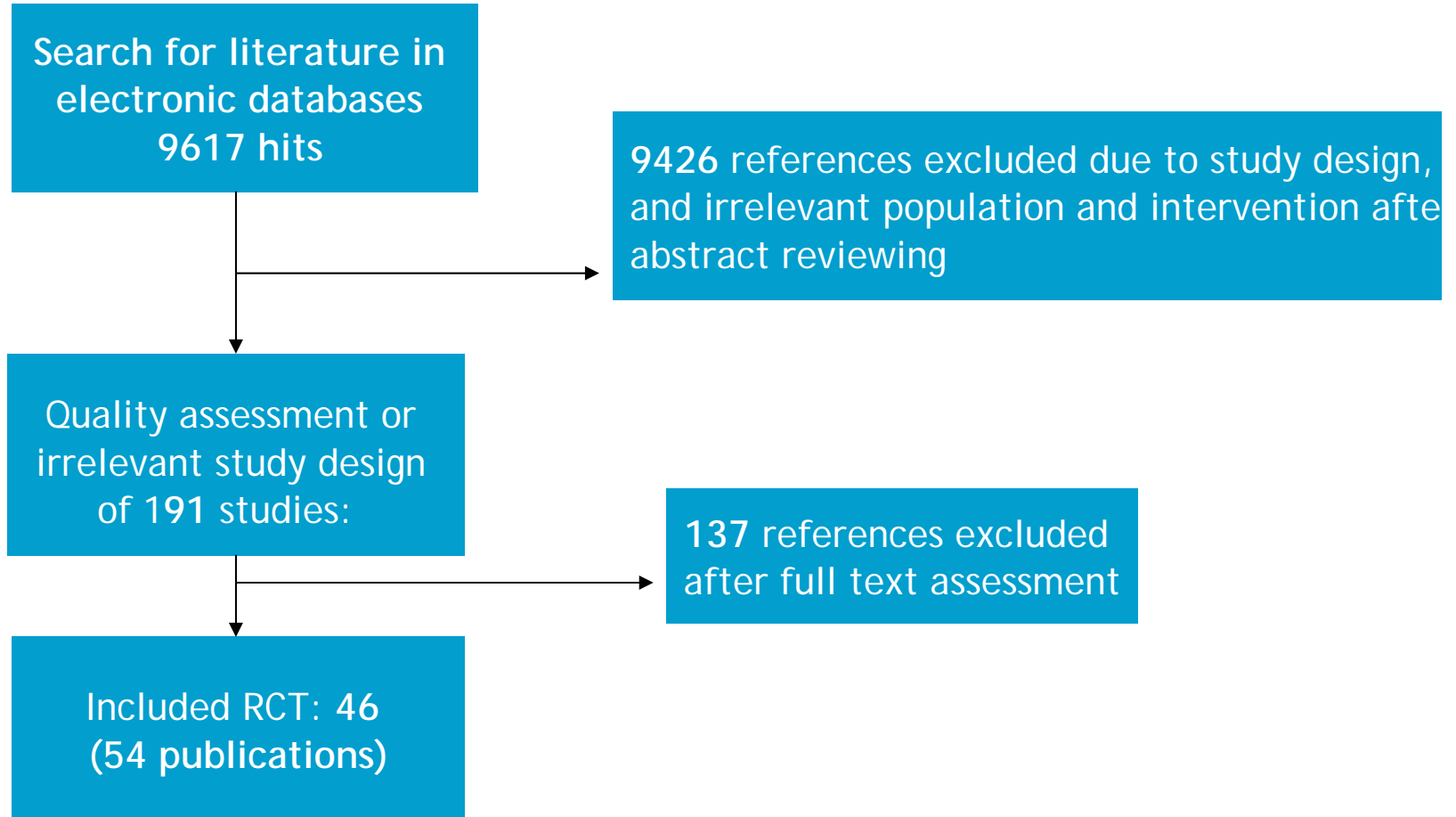
Literature search

Systematic search in relevant databases were carried out.

These were: (last search was September 2008)

- Cochrane Library
- The Centre for Reviews and Dissemination databases
- Medline
- Embase
- Cinahl
- PsycINFO
- AMED
- PEDro

Flow diagram over identified literature



Quality assessment

Study			Criteria*											Total /11	Quality
			1	2	3	4	5	6	7	8	9	10	11		
Physiotherapy	During treatment	Cinar et al. 2008	+	?	+	+	-	+	-	?	+	+	+	7	Moderate
		Lee et al. 2007	+	+	-	+	-	-	+	+	+	+	+	8	Moderate
		Lauridsen et al. 2005	+	+	?	+	-	-	+	-	+	+	+	7	Moderate
		Jansen et al. 1990	+	?	+	+	-	-	-	?	+	+	+	6	Moderate
	After treatment	Didem et al. 2005	+	+	+	+	+	-	-	?	+	+	+	8	Moderate
		Mc Neely et al. 2004	+	+	+	+	-	-	+	?	+	+	+	8	Moderate
		Andersen et al. 2000	+	?	?	+	-	-	-	+	+	+	+	6	Moderate
Physical activity	During treatment	Mutrie et al. 2007	+	+	+	+	-	-	+	+	+	+	+	9	High
		Courneya et al. 2007a, 2007b	+	+	+	+	-	-	-	+	+	+	+	8	High
		Mock et al. 2005	+	+	+	+	-	-	-	+	+	+	+	8	High
		Segal et al., 2001	+	+	+	+	-	-	+	+	+	+	+	9	High
	After treatment	Milne et al. 2008	+	+	+	+	-	-	-	+	+	+	+	8	High
		Vallance et al. 2008, 2007	+	+	+	+	-	-	-	+	+	+	+	8	High
		Daley et al. 2007	+	+	+	+	+	-	+	+	+	+	+	10	High
		Courneya et al. 2003	+	+	+	+	-	+	+	+	+	+	+	10	High
		Basen-Engquist et al 2006	+	?	+	+	-	-	-	+	+	+	+	7	Moderate
		Ahmed et al, 2006, Ohira et al 2006, Schmitz et al. 2005	+	?	+	+	-	-	+	-	+	+	+	7	Moderate
Pinto et al. 2005	+	+	-	+	-	-	-	+	+	+	+	7	Moderate		

The outcome measures were acquired from several inventories



- POMS = profile of mood states
- IES = impact of event scale
- SNI = social network index
- PSS = perceived social support scale
- MHI = Mental health inventory
- Partner Unsupportive Scale = PUS
- FACT-B= Functional Assessment of Cancer Therapy- Breast instrument.
- POMS = Profile of Mood States
- SCID= Structured clinical interview for DSM-III-R
- (SCL)-90-R= Symptom checklist
- BDI= Beck depression inventory
- MAC= Mental adjustment to cancer scale
- DWII= dealing with illness inventory
- QLI= Quality of life index
- MILP= Monash Interview for Liaison Psychiatry
- ABS= Affects Balance Scale
- HADS= Hospital Anxiety Depression Scale
- FAD=Family Assessment Device
- VAS-W= Visual Analogue Scale-Worry
- RCS= Relationship Change Scale
- UCLA-3= University of California, Los Angeles, Loneliness Scale-Version)
- SES= Symptom Experience Scale
- MFI= Multidimensional Fatigue Inventory
- QLQ-C30+3= The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire
- SF-36= The four-item Short Form-36.
- IES-R=Revised Impact of Events Scale
- CES-D= Center for Epidemiologic Studies-Depression Scale
- PTGI= Posttraumatic Growth Inventory
- SNI = Social Network Index
- PSS = Perceived social support scale
- MHI-18 = Mental Health Inventory-18
- PUS = Partner Unsupportive Scale
- CARES = Cancer Rehabilitation Evaluation System
- BNS = Borkovec & Nau's Scale
- CES-D = Center for Epidemiological Studies Depression scale
- HLC = Health Locus of Control
- STAI-(S)T = Spielberger State Trait Anxiety Inventory (State) Trait.
- FLIC = Functional Living Index
- CHESS= Comprehensive Health Enhancement Support System
- RSES = *Self esteem* (Rosenberg Self-Esteem Scale).

Physical activity interventions

- Total 1514 breast cancer patients (11 studies)
- The studies were divided according to if the intervention were given during or after primary treatment.
- Outcomes



Mood (anxiety, depression)
QoL
Fatigue
Lymphedema
BMI

Physical activity after primary treatments

Studie	N	QoL	Fatigue	Mood	Lymphedema	BMI
Milne 2007	58	QoL ↑	Fatigue ↓	Anxiety ↓		
Vallance 2007, 2008	266	QoL ↑	Fatigue ↔			BMI ↔
Daley 2007	108	QoL* ↑	Fatigue ↓	Depression ↓		
Courneya 2003	53	QoL ↑	Fatigue ↔			BMI ↔
Basen-Engquist 2006	60	QoL ↑			Lymphedema ↔	BMI ↔
Ohira 2006, Ahmed 2006, Schmitz 2005	85	QoL ↑	Fatigue* ↓	Depression ↔ Mood ↔	Lymphedema ↔	BMI ↔
Pinto 2005	86		Fatigue ↓	Mood ↔		BMI ↔

SMD 1.31 (0.27-2.35) SMD -0.52 (-1.01 -0.02)

- May increased QoL and reduced fatigue

Psychosocial interventions



- Total 3272 breast cancer patients (18 RCT)
- Three groups of psychosocial interventions
 - psychoeducation,
 - cognitive behavioural therapy,
 - social and emotional support interventions.
- The studies were divided according to if the intervention were given during or after primary treatment.
- Outcomes
- Many types of inventories

Mood (anxiety, depression)
QoL
Fatigue
Coping

Psychosocial interventions - results

- Psychoeducational information (6 RCTs).
- Social and emotional support interventions (5 RCT)
 - Different outcome measurements
 - Heterogeneous studies.
- Cognitive Behavioral Therapy (CBT) (7 RCT)
 - 4 studies found an improvement in QoL when the intervention was given after primary cancer treatment.
 - There were inconsistencies from the interventions examined the effect of CBT during cancer treatment.



Cognitive behavioural therapy after primary breast cancer treatment

Studie	N	QoL	Mood	Fatigue	Coping
Dirksen 2008	81	QoL ↑	Depression ↔ Anxiety ↔	Fatigue ↓	
Savard 2005	57	QoL ↑	Depression ↓ Anxiety ↓	Fatigue ↔	
Simpsons 2001, 2002	89	QoL ↑	Mood ↓ Depression ↓		Coping ↔
Edelman 1999	60	QoL ↑	Depression ↔ Anxiety ↔		

- Cognitive Behavioral Therapy may increase the QoL.

Results from the other interventions

■ Interventions

- **Physiotherapy (7 studies)**
 - Shoulder function, Lymphedema,
- **Nutrition (2 studies)**
- **Complementary treatment (5 studies)**
- **Complex interventions (3 studies)**

- **All the studies**
 - Small studies
 - Mostly moderate quality
 - Different outcome measurements
 - Inconsistency
 - Difficult to compare



Lymphedema

■ Difficult to conclude about the effects

- Interventions could still be useful!

Conclusions

- Limited documentation for the effect of different rehabilitation interventions for breast cancer patients.
 - Physical activity after primary cancer treatment may increase QoL and reduce fatigue.
 - Patients might also have some benefits on QoL from CBT interventions after primary breast cancer.
- More documentation is needed for the effects of
 - physiotherapy
 - psycho-education and social and emotional support.
 - Nutrition, complementary intervention and complex interventions
- There is still a need for further research focusing on rehabilitation of breast cancer patients.
 - For new long-term medical treatments

