

**職能治療介入是否能改善
髖關節術後個案的
功能表現(ADL)？**



Is Occupational Therapy After Hip Fracture Surgery Effective in Improving Function? A Systematic Review and Meta-Analysis of Randomized Controlled Studies

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Tsai Han –Ting OTR

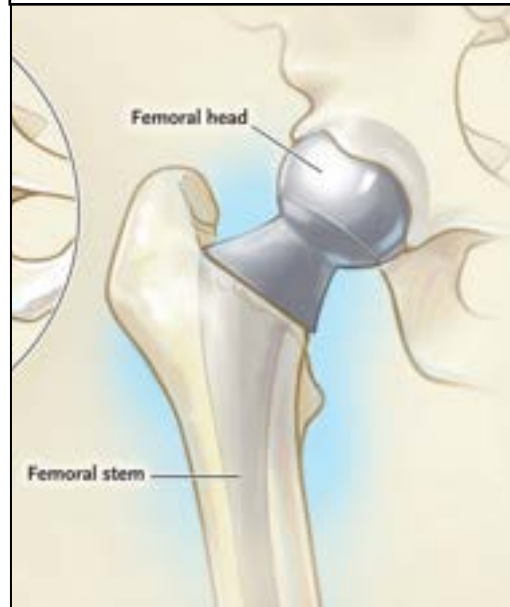
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Hip Fracture



Surgery



Gait disturbance



ADL dependent



Incidence of hip fractures is increasing in aging populations

Only 25% of patients recover to their prefracture function after HFS

Practice Guidelines for Adults with Hip Fracture/ replacement (AOTA, 1999)



Positioning and postural care

Movements in bed

Transferring in and out of bed

Techniques for sitting, standing, walking, dressing, bathing

Home environment and furniture advice

Preventing future falls

Rehabilitation after hip fracture surgery(HSF)

Comprehensive geriatric care
Multidisciplinary rehabilitation



Early discharge
planning

Early
mobilization

Improving ADL/
IADL

Reduced mortality and improved the ability of independent living 4 months after HFS

Lahtinen, Antti, et al. "Geriatric and physically oriented rehabilitation improves the ability of independent living and physical rehabilitation reduces mortality: a randomised comparison of 538 patients." *Clinical rehabilitation* 29.9 (2015): 892-906.

Purpose

Explore whether OT improves the overall function of patients after HFS

With OT

Control group (usual care only without OT)

Methods

- Databases

PubMed-Medline, Embase, and Cochrane Library

- Key terms:

hip fracture OR femur neck fracture OR femur intertrochanteric fracture) AND (occupational therapy OR occupational training OR activity of daily living OR activities of daily living OR ADL training OR skilled treatment OR independent living)

Inclusion criteria

- 1) RCT
- 2) Evaluation of the utility of only OT after HFS.

Quality Assessment

- ① random sequence generation
- ② allocation concealment
- ③ blinding of participants and personnel
- ④ blinding to outcome data
- ⑤ incomplete outcome data addressed
- ⑥ selective reporting
- ⑦ other bias

Outcome Measures

- 1) Primary:
ADL(modified Barthel index or KleinBell ADL scale)
- 2) Secondary:
 - ① physical function (Harris hip score and mobility measures);
 - ② health perception and emotion(Goldberg General Health Questionnaire 28:satisfaction with physical functioning, positive/negative affect, degree of vitality, sleep functioning, and satisfaction with family life/relationships)
 - ③ fall occurrence.

Statistical Analysis

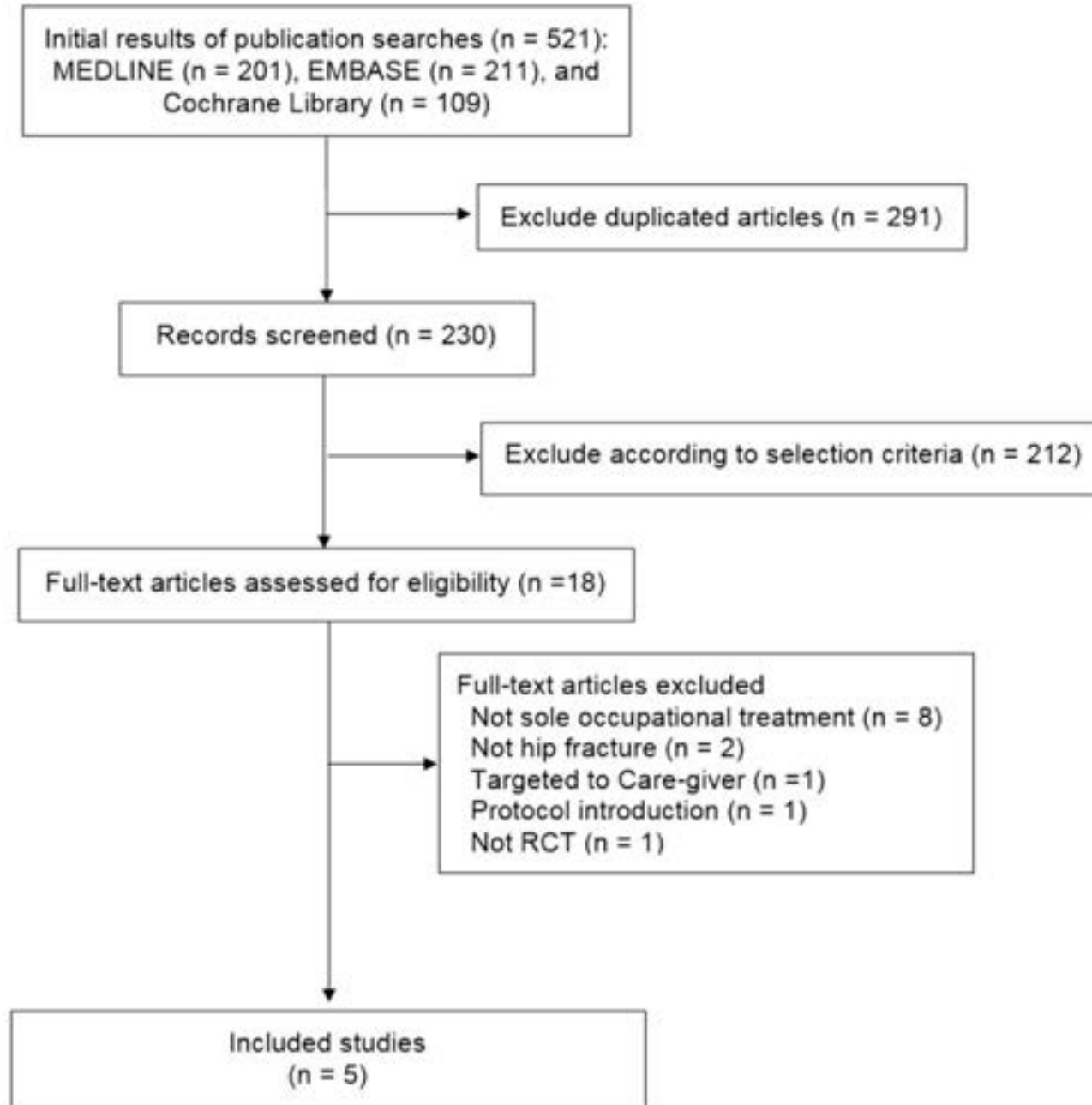
- ① Effect sizes :standardized mean differences (SMDs);
- ② Random-effects meta analysis model
- ③ Comprehensive Meta-Analysis Software

Identification

Screening

Eligibility

Included



2004 – 2015

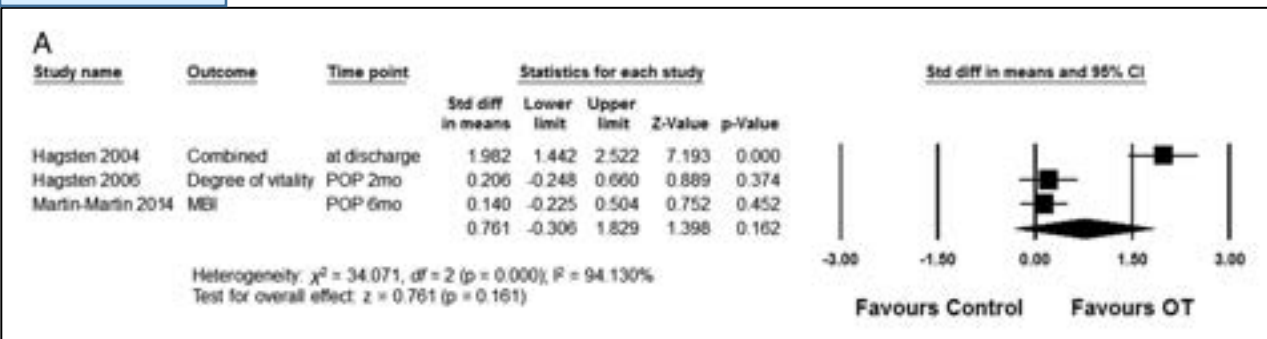
Acute: 3 studies
(inpatient exercise)

Chronic: 2 studies
(home visit and
telephone call)

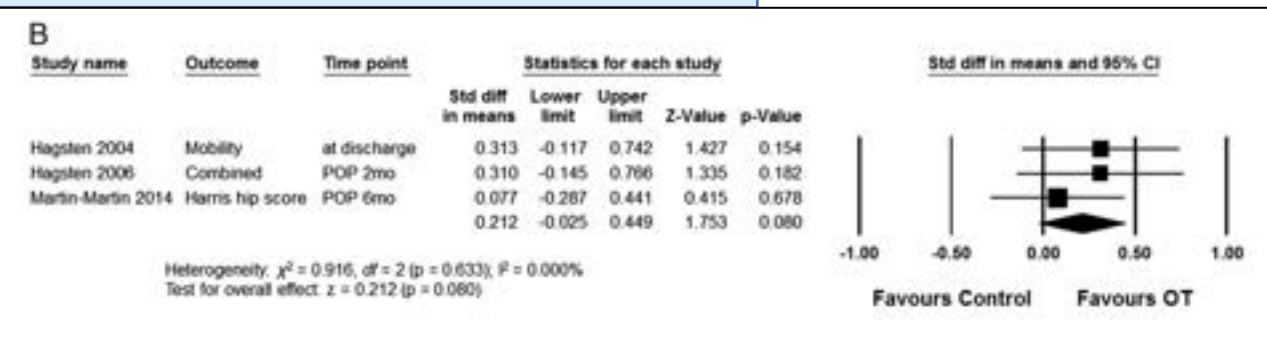
Study	Study Period	Region	Subject Characteristics	OT	Treatment for Control Group	F/U Period	No. Participants		Outcomes
							Intervention	Control	
Hagsten et al. 2004 ⁹	Not mentioned	Sweden	1. Age \geq 65 yrs 2. Independent residence 3. No use of walking aids	1. Getting out of bed, going to the bathroom and performing morning activities, and dressing. 2. Preparing and adapting the home environment for maximum independence.	1. Conventional care from the nursing staff. 2. How to walk with mobility aids.	2 mos	46	39	Klein-Bell ADL scale, Disability Rating Index, fear of performing ADL/IADL, and pain level during performance
Hagsten 2006 ¹³	1996–1998	Sweden	1. Age \geq 65 yrs 2. Independent residence 3. No use of walking aids	1. Getting out of bed, going to the bathroom, performing morning activities, and dressing. 2. Preparing and adapting the home environment for maximum independence.	Postoperative rehabilitation from the staff on the ward.	2 mos	38	37	SWED-QUAL questionnaire
Di Monaco et al. 2008 ¹⁰	Not mentioned	Italy	1. Women age \geq 60 yrs 2. Community dweller 3. MMSE \geq 23	A home visit by an occupational therapist who assessed environmental hazards, ADL behaviors, use of assistive devices, and who suggested targeted modifications to prevent falls.	Multidisciplinary program targeted at fall prevention during inpatient rehabilitation.	6 mos	45	50	Occurrence of falls
Martin-Martin et al. 2014 ⁴	2011–2012	Spain	Mean age 82 yrs (range = 65–97 yrs)	1. Positioning and postural care standing. 2. Transferring. 3. Techniques for sitting, standing, dressing, and bathing 4. Technical aids for getting dressed, walking, bathing, and using the toilet. 5. Home environment and furniture advice. 6. Moving around the bedroom, bathroom, and kitchen.	Standard medical and physical therapy treatment without any OT intervention.	6 mos	57	59	Goldberg General Health Questionnaire, modified Barthel index, Harris hip score
Di Monaco et al. 2015 ¹¹	Not mentioned	Italy	1. Women age \geq 50 yrs 2. Community dweller 3. MMSE \geq 23	A telephone call by an occupational therapist to reinforce the targeted recommendations for fall prevention.	Multidisciplinary intervention to prevent falls.	6 mos	78	75	Occurrence of falls

Forest plots

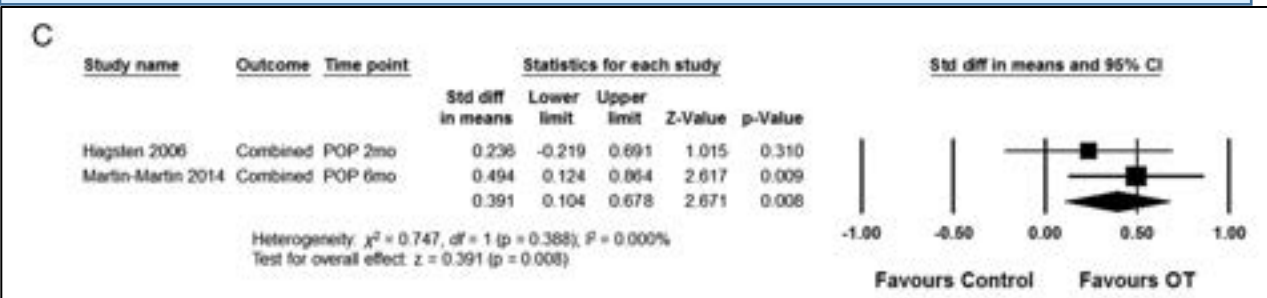
ADL



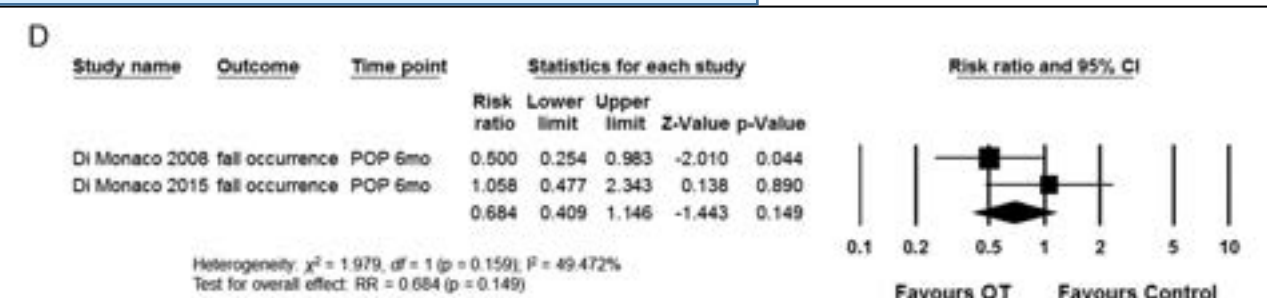
Physical function



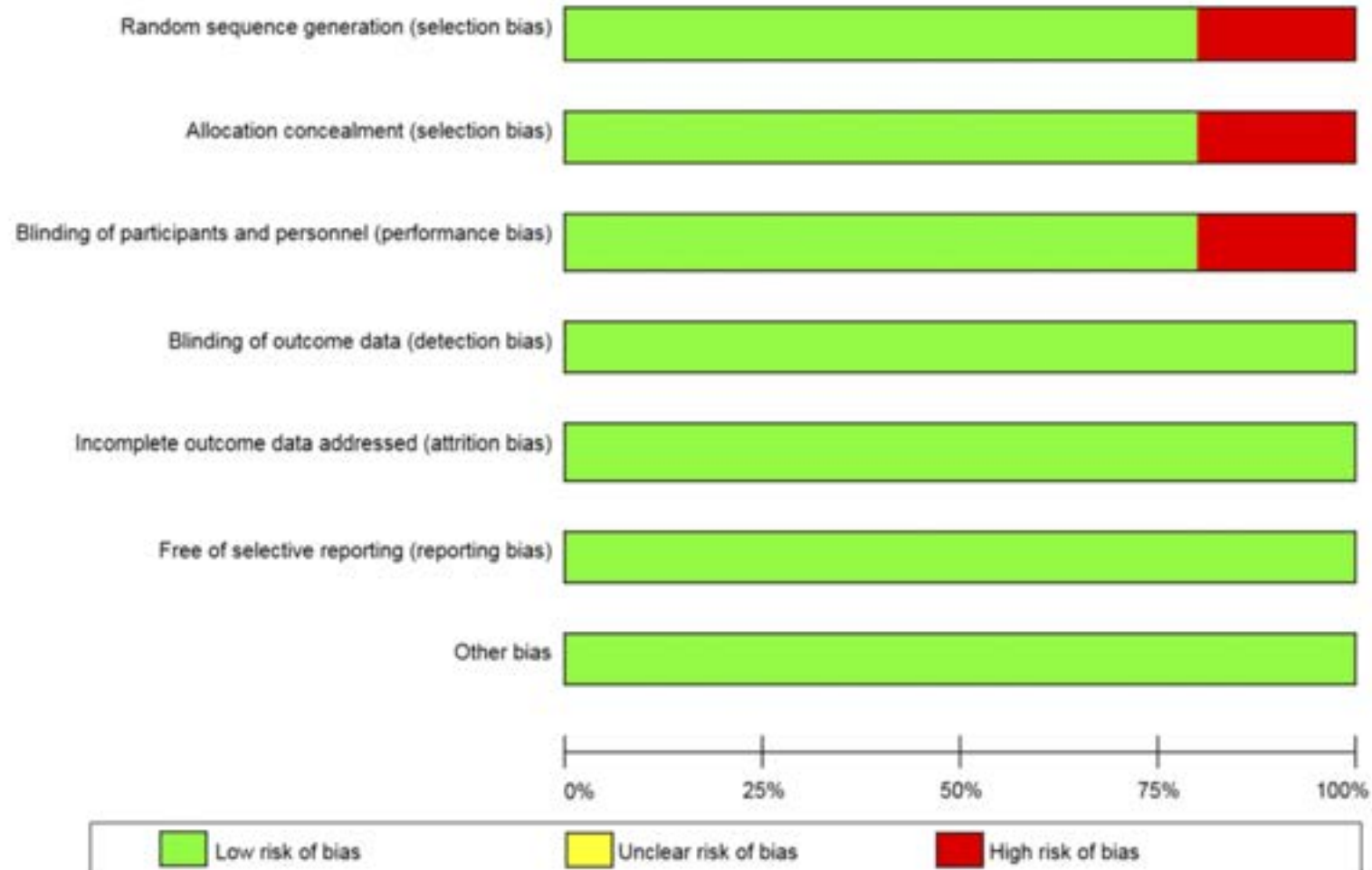
Health perception and emotion



Fall occurrence



Summary of bias risk of the RCTs



The effectiveness of OT after HFS

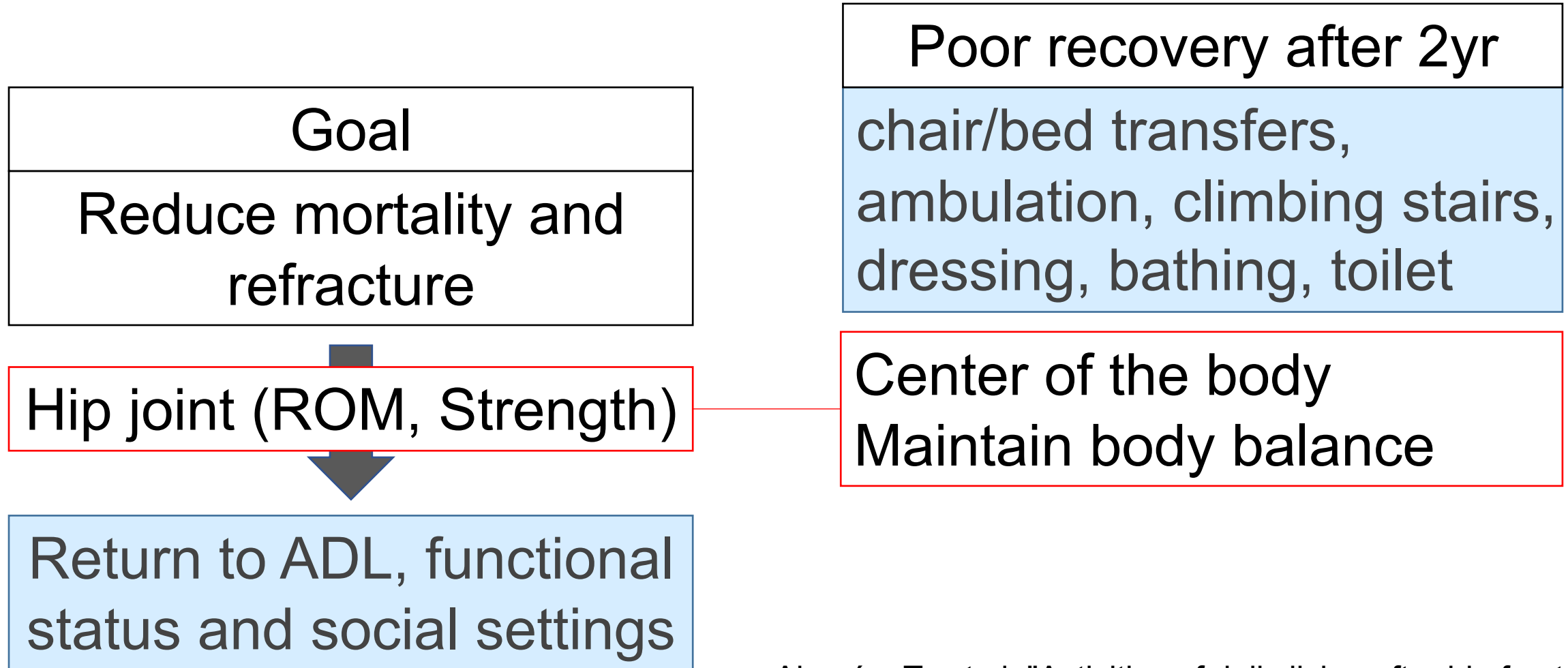
Effective in improving
health perception and
emotion

ADL, physical function,
and fall occurrence
tended to be improved



Enhance confidence and
diminish fear of falling.

Return to function after HFS



Alarcón, T., et al. "Activities of daily living after hip fracture: profile and rate of recovery during 2 years of follow-up." Osteoporosis international 22.5 (2011): 1609-1613.

Effect of ADL training

Health perception and
emotion were improved

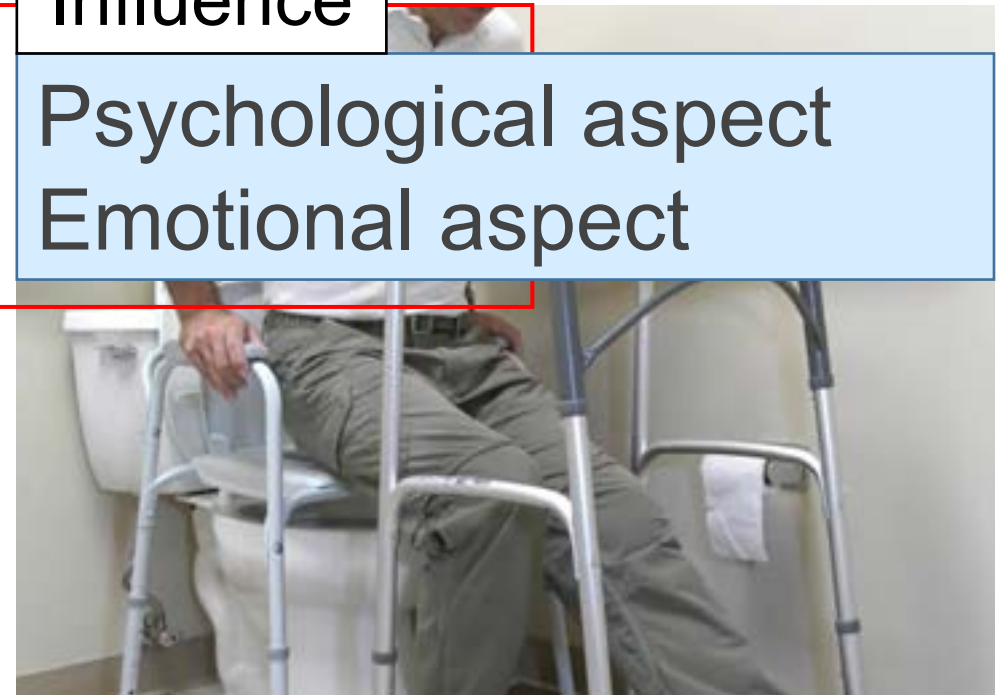


ADL training

Influence

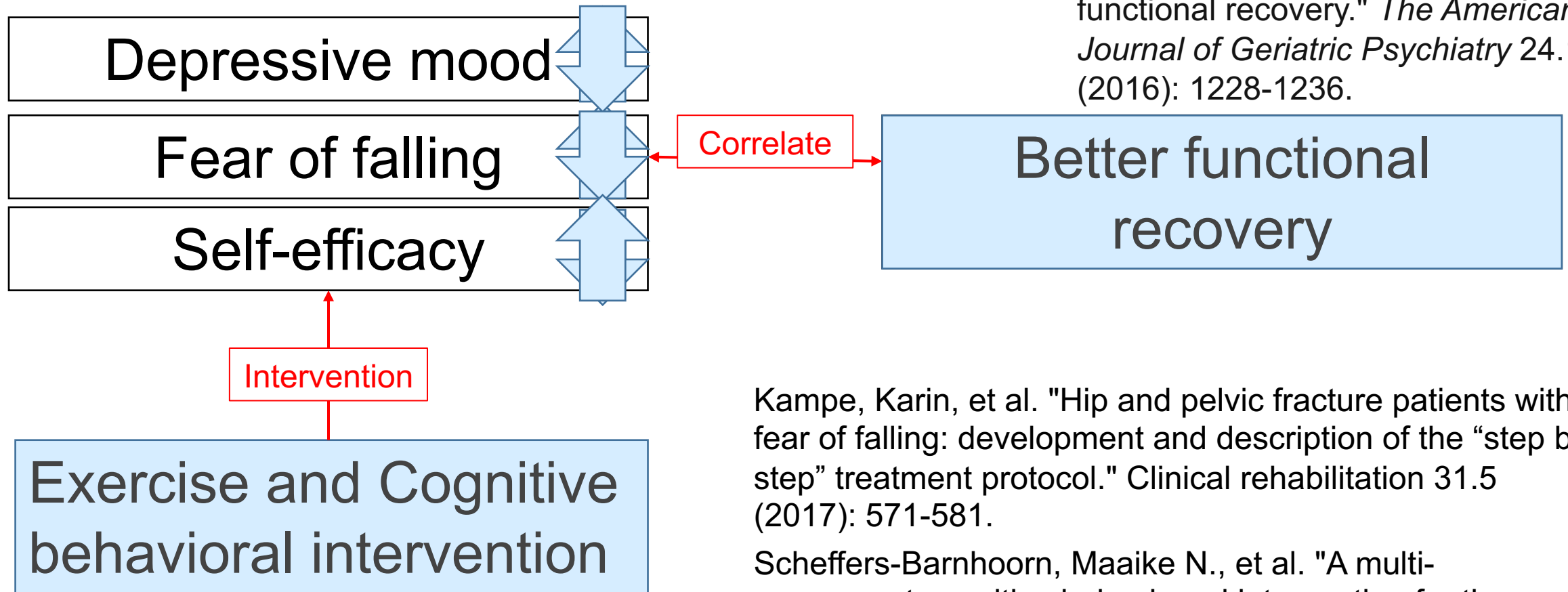
Psychological aspect
Emotional aspect

Improved self-confidence
Decreased fear of falling



Treat Psychological aspects

Bower, Emily S., et al. "Fear of falling after hip fracture: prevalence, course, and relationship with one-year functional recovery." *The American Journal of Geriatric Psychiatry* 24.12 (2016): 1228-1236.



Kampe, Karin, et al. "Hip and pelvic fracture patients with fear of falling: development and description of the "step by step" treatment protocol." *Clinical rehabilitation* 31.5 (2017): 571-581.

Scheffers-Barnhoorn, Maaïke N., et al. "A multi-component cognitive behavioural intervention for the treatment of fear of falling after hip fracture (FIT-HIP): protocol of a randomised controlled trial." *BMC geriatrics* 17.1 (2017): 1-13.

Conclusion

Occupational therapy after HFS seems to improve overall function.

Positive effects on health perception and emotions.

OT should be included in rehabilitation management for cognition and mood improvement after hip fracture in the elderly.

Study limitation

- Only five RCTs
- Included various types of OT and several outcome variables
- Limited follow-up periods (up to 6 months)
- Only in Europe

Thanks for your attention !!!

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Funnel Plot of Standard Error by Std diff in means

