G.14 Assessing and managing comorbidities

G.14.1 Assessing and treating intercurrent illness in people living with dementia

- Are there effective methods for assessing intercurrent illness in people living with dementia that are different from those already in use for people who do not have dementia?
- Are there effective methods for treating intercurrent illness in people living with dementia that are different from those already in use for people who do not have dementia?

G.14.1.1 Assessing intercurrent illness

Observer rated versus self-report pain assessment

Pain Assessment in Advanced Dementia (PAINAD) and Numerical Rating Scale (NRS)

Quality assessment							No of patients		Effect estimate	Quality
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	
Outcome : Presence of pain as assessed by PAINAD and NRS										
Mosele (2012)	Prospective cohort	Serious[1]	Not serious	N/A	Not serious	None	310	290	PAINAD MD 0.70 (0.26, 1.14)	Moderate
Mosele (2012)	Prospective cohort	Serious[1]	Not serious	N/A	Serious[2]	None	310	290	NRS MD = 0.30 (-0.25 to 0.85)	Low
Prevalence of pain										
Mosele (2012)	Prospective cohort	Serious[1]	Not serious	N/A	Serious[3]	None	310	290	PAINAD	Low

Quality assessment							No of patients		Effect estimate	Quality
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	
									RR 1.39 (1.20, 1.62)	
Mosele (2012)	Prospective cohort	Serious[1]	Not serious	N/A	Serious[3]	None	310	290	NRS RR 1.19 (1.00, 1.41)	Low

1 *Risk of selection bias in study*
2 *Non-significant result*
3 *95% CI Crosses one line of a defined MID interval*

Observational versus self-report pain assessmentNon Communicative Patients Pain Assessment (NOPPAIN), Numerical Rating Scale (NRS) and Verbal Descriptor Scale (VDS)

Quality assessment							No of patients		Effect estimate	Quality
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	
Outcome : Presence of pain as assessed by NOPPAIN, NRS and VDS Relationship between observational (NOPPAIN) scores and self-report scores										
Correlation of NOPPAIN intensity with how much pain participants report										
Horgas (2012)	Cross sectional	Serious[1]	Not serious	N/A	Serious[2]	None	20	20	CI group VDS *r*=0.05, p= non sig NRS *r*=0.16, p=non sig	Low

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
									Non CI group VDS *r*=0.66, p<0.001 NRS r=0.66, p<0.001	
Correlation of NOPPAIN intensity with total no of pain indicators observed										
Horgas (2012)	Cross sectional	Serious[1]	Not serious	N/A	Serious[2]	None	20	20	CI group r=0.63, p<0.001 Non CI group r=0.65, p<0.001	Low

[1]*Risk of selection bias*
[2]*Small sample size*

Observational versus self-report pain assessment

Pain Assessment in Advanced Dementia (PAINAD) and Numerical Rating Scale (NRS)

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
Outcome : Correlation between PAINAD and NRS										

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
De Waters (2008)	Correlational	Serious[1]	Serious[2]	N/A	Serious[3]	None	12	13	CI group r^a=0.735 p<0.001 Non CI group r=0.915 p<0.001	Very low

[1]*Risk of selection bias*
[2]*Sub sample drawn from larger populatin of elderly hip fracture patients*
[3]*Small sample size*
(a) Pearsons's correlation coefficient

Observational versus observational and self-report pain assessment

Rotterdam Elderley Pain Observation Scale, PAINAD and NRS (REPOS versus PAINAD and NRS)

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
Outcome : Correlation between (REPOS versus PAINAD and NRS)										
Van Herk (2009)	Case control	Serious[1,2]	Not serious	N/A	Not serious	None	124	50	CI group PAINAD rs^a=0.75 (0.66 to 0.82) NRS-nurse rs =0.19 (0.01 to 0.35)	Low

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
									Non CI group PAINAD rs=0.61 (0.40 to 0.76) NRS-nurse rs =0.36 (0.09 to 0.58)	
Comparison of pain scores: Median REPOS scores during painful activity										
Van Herk (2009)	Case control	Serious[1,2]	Serious[3]	N/A	Not serious	None	124	50	CI group= 5 (IQR 3 to 6) Non CI group =4 (IQR 3 to 5) (p=0.0002)[b]	Very low

[1] Risk of selection bias
[2] Selective reporting of methods
[3]Control group included people with MMSE≥18. Cannot be certain that this may have included people with Mild cognitive impairment
(a) Spearman's rank correlation coefficient
(b) Based on two-way ANOVA

Observational versus observational and observational pain assessment versus self-report (Abbey pain scale versus PAINAD and NOPPAIN versus self-report)

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
Outcome : Correlation between observational ratings and self-report ratings of pain intensity										
Lukas (2013)	Retrospective cohort	Serious[1]	Not serious	N/A	Not serious	None	49	59	CI group Abbey r=0.563 (p<0.001) PAINAD r=0.532 (p<0.001) NOPPAIN r=0.680 (p<0.001) Non CI group Abbey r=0.314 (p=0.015) PAINAD r=0.241 (p=0.066) NOPPAIN r=0.320 (p=0.013)	Moderate
Agreement of self-reported and observational-rated pain										

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
Lukas (2013)	Retrospective cohort	Serious[1]	Not serious	N/A	Not serious	None	49	59	CI group Abbey 78.3% PAINAD 73.3% NOPPAIN 80.0% Non CI group Abbey 66.1% PAINAD 66.1% NOPPAIN 69.2%	Moderate

[1]*Risk of selection bias*

Falls assessment versus functional assessment: Berg Balance Scale (BBS)

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
Outcome : Performance on BBS										

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
Kato-Narita (2011)	Case control	Serious[1]	Not serious	N/A	Serious[2]	None	48	40	Mean difference in scores CI group =51.3; Non CI group=53.1 (p=0.001) MD = -1.80 (-3.06 to -0.54)	Low
Correlation between number of falls recorded in last 12 months and scores on BBS										
Kato-Narita (2011)	Case control	Serious[1]	Not serious	M/A	Serious[2]	None	23[a]	40	CI group r= -0.613 (p=0.045) Non CI group r=0.383 (p=0.015)	Low

[1] Risk of selection bias level
[2]Based on small sample and sup population of wider sample
(a) Sample based on subpopulation classified as mild AD (classified by Clinical Dementia Rating (CDR)

Delirium assessment

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
AUCa for DRS versus DSM-5										
Sepulveda (2015)	Cross-sectional	Serious[1]	Not serious	N/A	Serious[2]	None	85	40	CI group = 87.03%; Non CI group = 98.86% MD 11.83 (3.07 to 20.59)	Low
AUC for DRS versus ICD-10										
Sepulveda (2015)	Cross-sectional	Serious[1]	Not serious	N/A	Serious[2]	None	85	40	CI group = 86.69%; Non CI group = 97.37% MD 10.68 (1.62 to 19.74)	Low
AUC for DRS versus DSM-III-R										
Sepulveda (2015)	Cross-sectional	Serious[1]	Not serious	N/A	Serious[2]	None	85	40	CI group = 88.55%; Non CI group = 100%	Low

Quality assessment							No of patients		Effect estimate	
No of studies	Design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Cognitive impairment (CI)	Cognitively intact (non CI)	Summary of results	Quality
									MD 11.45 (3.02 to 19.88)	
AUC for DRS versus DSM-IV										
Sepulveda (2015)	Cross-sectional	Serious[1]	Not serious	N/A	Serious[2]	None	85	40	CI group = 88.29%; Non CI group = 100% MD 11.71 (3.44 to 19.98)	Low

[1]*Observational design, downgrade 1 level*
[2]*Based on small sample and sup population of wider sample*
AUC= Area under the curve