

Claudia Eckstein<sup>1</sup>, Heinrich Burkhardt<sup>2</sup><sup>1</sup> Network Ageing Research, University of Heidelberg, Germany.<sup>2</sup> Department of Geriatric Medicine, University Medicine Mannheim, Germany.

## Overview of included studies

No.	Study	Country	Objectives	Design	Setting <sup>(1)</sup>	Patient-sample <sup>(1)</sup>	Duration	In-/exclusion criteria	Inclusion of PwD <sup>(2)</sup> /MCI <sup>(3)</sup> ?	Performed in geriatric ward?
1	Allen et al. (2011)	USA	Early detection/treatment/ prevention of delirium	Pre- and post-test design	Acute-care for elders	Geriatric population; age 65 and over; pre-phase: n=102; post-phase: n=97	Not stated	Not stated	(X)	X
2	Andro et al. (2012)	France	Evaluation of demented hospitalized patients	Pre- and post-test design	Acute-care geriatric	Geriatric population; age 75 and over; pre-phase: n=367; post-phase: n=372	07/2008-12/2009; 18 months	Inclusion: several forms of dementia	X	X
3	Avendaño-Céspedes et al. (2016)	Spain	Analysis of nurse-led interventions (patient outcomes: incidence/duration/severity of delirium, and feasibility)	RCT <sup>(4)</sup> (power-calculation conducted)	Acute-geriatric ward	Geriatric population; age 65 and over; IG <sup>(5)</sup> : n=321; CG <sup>(6)</sup> : n=29	10/2013-02/2014; 5 months	Exclusion: severe cognitive decline	(x)	X
4	Benedict et al. (2009)	USA	Investigation of the effectiveness of delirium prevention protocols, based on modified NEECHAM (Neelon et al. 1996) tool	Prospective observational study	Acute-care of elders' unit	Population; age 60 and over; IG <sup>(5)</sup> : n=70 (mean age: 78,9 years); CG <sup>(6)</sup> : n=35 (mean age: 78,1 years)	01/2006-04-2006; 4 months	Exclusion: delirium, long-term care, drugs	(X)	X
5	Bo et al. (2009)	Italy	Investigation of acute-geriatric ward, compared with acute-general medical ward: which ward is associated with reduced delirium incidence	Prospective observational study	Acute-geriatric ward/acute-medical ward	Geriatric population; age 70 and over; IG <sup>(5)</sup> : n=121; CG <sup>(6)</sup> : n=131	01/2007-04/2007; 4 months	Exclusion: delirium, psychiatric and neurologic disorders, language, alcohol		X
6	Foster et al. (2010)	Australia	To implement a best practice approach to assess, to manage and to prevent delirium	Qualitative: action research	2 acute-medical wards	"High-risk" population; age 65 and over (history of fall, 3 medications or 1 opiate, memory loss or confusion, visual/hearing impairment, severe illness (n=30))	2008; 6 months	Exclusion: patients without risk profile		
7	Godfrey et al. (2013)	UK	Development of a novel delirium, focused in the implementation process	Qualitative: participatory action research	3 hospitals, elderly care	Population: elderly, not specified	Not described in detail; 14 months			X
8	Hasemann et al. (2016)	Switzerland	Determination of the effects of DemDel, a comprehensive delirium management program for older inpatients in acute-care with cognitive impairment	Pre- and post-test design (power-calculation conducted)	4 general medical wards	Population; age over 70 years and older; IG <sup>(5)</sup> : n=138; CG <sup>(6)</sup> : n=130	01/2009-08/2009; 01/2010-08/2010; 2 x 8 months	Exclusion: language, blind/deaf patients, terminal/neurological illness, coma, drugs, alcohol; inclusion: all patients with signs of cognitive impairment	X	
9	Holroyd-Leduc et al. (2010)	Canada	Implementation/evaluation of an evidence-based electronic care pathway, which incorporates multicomponent delirium strategies	Interrupted design (prospective cohort study)	2 orthopaedic units	Population: age over 65 years and older with hip fractures; IG <sup>(5)</sup> : n=170; CG <sup>(6)</sup> : n=173	10/2008-08/2009; 11 months	Exclusion: non-native speakers, fractures caused by motor vehicle crashes		
10	Holt et al. (2013)	UK	Examination of the effect of a multicomponent, delirium prevention intervention	Pre- and post-test design	3 care wards (specialized for elderly)	Population: "elderly" without limitation IG <sup>(5)</sup> : n=187 (mean age: 85,8 years, SD: ±5.39); CG <sup>(6)</sup> : n=249 (mean age: 85,01 years, SD: 6.03)	10/2007-03/2008; 6 months 08/2008-01/2009; 6 months	Exclusion: delirium; language; inclusion: admitted as emergency	(X)	X
11	Jeffs et al. (2013)	Australia	Comparison between an intervention program (with exercise, mobilisation, and orientation) and usual care to prevent delirium	RCT <sup>(4)</sup> (power-calculation conducted)	2 acute-medical wards	Population: age over 65 years or older; IG <sup>(5)</sup> : n=305; CG <sup>(6)</sup> : n=344	05/2005-12/2007; 32 months	Exclusion: severe dysphasia, communication impossible, death expected within 24 h, isolation, contraindication mobilisation, stroke/ICU		
12	Kratz et al. (2015)	Germany	Investigation of a prospective intervention with psycho-geriatric liaison* on surgical wards	Non-randomized, combined with pre- and post-test design	2 general surgical wards	Population: age over 70 years and older; prevalence phase: n= 125; intervention phase: IG <sup>(5)</sup> : n=61; CG <sup>(6)</sup> : n=53	03/2011-06/2012; 16 months	Exclusion: advanced dementia, severe delirium pre-operatively; end stage		

\*The responsible "delirium nurse" was referred as a "liaison nurse". However, the preventive interventions were not performed as part of a liaison service. Rather, the "delirium nurse" was a member of the ward team.

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13	Kurrle et al. (2019)	Australia	Evaluation of a model of care (CHOPs: Confused Hospitalised Older Persons Program) to improve recognition, assessment and management of older patients with cognitive impairment	Pre- and post-test design	6 hospitals (13 wards, 2 of those: aged care wards)	Population: all patients over 65 years and older (Aboriginal patients over 45 years); randomly selected medical records; sample: n=743	12 months (period varied between 02/2014-10/2016)	Exclusion: emergency only admissions or day only patient admission	(X)	(X)
14	Lundström et al. (1999)	Sweden	Investigation of a reorganized nursing program to reduce the incidence of post-operative delirium and to improve patient's functional outcomes	Prospective observational study (historical comparison)	1 ortho-geriatric rehabilitation	Population: all patients (age range: 65-98, mean: 79.7 years, SD ±7.5) with femoral neck fractures; n=49	01/1993-12/1993; 12 months	Exclusion: patients without surgical treatment	(X)	X
15	Lundström et al. (2005)	Sweden	Investigation whether an education program and a reorganization of nursing/medical care would improve outcome for older delirious patients	Prospective observational study	2 general internal medicine wards	Population: age over 70 years and older; IG <sup>(5)</sup> : n=200; CG <sup>(6)</sup> : n=200	8 months (period of time not stated)	Exclusion: younger than 70 years	(X)	
16	Lundström et al. (2007)	Sweden	Examination whether a post-operative multifactorial intervention program can reduce delirium and improve patient's outcome	RCT <sup>(4)</sup> (power-calculation conducted)	1 geriatric and 1 orthopaedic ward	Population: all patients over 70 years and older with femoral neck fractures; IG <sup>(5)</sup> : n=102; CG <sup>(6)</sup> : n=97	05/2000-12/2002; 32 months	Exclusion: severe rheumatoid arthritis, severe hip osteoarthritis, severe renal failure, pathological fracture, bedridden before fracture	(X)	X
17	Mattison et al. (2014)	USA	Investigation whether a bundled intervention can increase detection of delirium and facilitate safer use of high-risk medications (multicomponent, pharma- and non-pharmacological intervention)	Pre- and post-test design	Medical/ surgical center geriatric-focused acute-care	Population: all patients cohort I: aged 80 and over: pre-phase: n=5,077; post-phase: n=5,571; cohort II: aged 70 to 79: pre-phase: n=4,819; post-phase: n=4,482	05/2008-09/2011; 41 months	Exclusion: other wards (ICU, oncology, psychiatry)		(X)
18	Milisen et al. (2001)	Belgium	Development and testing the effectiveness of a nurse-led interdisciplinary intervention program for delirium	Pre- and post-test design	2 trauma-tological wards	Population: patients admitted to emergency department with a traumatic fracture of prox. femur who received surgery within 24 h; IG <sup>(5)</sup> : n=60 (median age: 82 years, IQR 13); CG <sup>(6)</sup> : n=60 (median age: 80 years, IQR 12)	09/1996-03/1998; 19 months	Exclusion: multiple trauma, concussion of the brain, pathological fractures, surgery more than 72 h after admission, aphasia, blind-/deafness, and fewer than 9 years of formal education	(X)	
19	Miller et al. (2004)	USA	Testing of intervention that obtains personal information from caregivers on older adults' behaviours indicating discomfort	Pre- and post-test design	1 geriatric and 1 orthopaedic ward	Population: cohort I: age 64 and over (admitted from nursing home), cohort II: 74 years and older (admitted from a residence, foster care/ retirement community); IG <sup>(5)</sup> : n=43; CG <sup>(6)</sup> : n=38	2 months (period of time not stated)	Inclusion: diagnosis of chronic cognitive impairment/dementia, no diagnosis of cognitive impairment but mental problems noted at admission	X	X
20	Pitkälä et al. (2006)	Finland	Investigation of the effectiveness in reducing mortality of a geriatric assessment/tailored treatment for patients with delirium	RCT <sup>(4)</sup>	6 medical wards with geriatric care	Population: age over 69 years and older; IG <sup>(5)</sup> : n=87; CG <sup>(6)</sup> : n=87	09/2001 - 11/2002; 16 months	Exclusion: life expectancy less than 6 months, admission from long-term care, discharged in 48 h; inclusion: delirium	(X)	(X)
21	Robinson et al. (2008)	USA	Investigation of the effectiveness of a protocol designed to prevent older inpatients with risk factors from delirium	Pre- and post-test design	1 renal unit	Population: age over 69 years and older; pre-phase: n=80; post-phase: n=80	1 year (period of time not stated)	Inclusion: patients with any combination (dementia, vision-hearing-mobility impairment)	(X)	
22	Rudolph et al. (2014)	USA	Improvement project to identify and modify delirium risk and discharge to rehabilitation	Propensity-matched cohort study	2 acute-care medical wards	Population: veterans age over 65 years and older; IG <sup>(5)</sup> : n=566; CG <sup>(6)</sup> : n=566	Not stated	Exclusion: ICU, unable to communicate, in-patient for 48 h or longer before screening	(X)	
23	Vidán et al. (2009)	Spain	Analysing the effectiveness of a multicomponent intervention, integrated into daily practice to prevent older inpatients of delirium	Prospective cohort study	1 geriatric & 2 internal wards	Population: age over 70 years and older; IG <sup>(5)</sup> : n=140; CG <sup>(6)</sup> : n=222	01/2007-12/2007; 12 months	Exclusion: severe dementia, aphasia, coma, agonic status, expected stay shorter than 48 h	(X)	X
24	Wand et al. (2014)	Australia	Evaluation of the effectiveness of an educational program in preventing delirium in hospitalized older patients and improving staff practice	Pre- and post-test design	1 general medical ward	Population: age over 65 years and older; pre-phase: n=126; post-phase: n=129	05/2011-09/2012; 17 months	Exclusion: non-verbal patients, terminal illness, and receiving comfort care	(X)	
25	Wanich et al. (1992)	USA	Examination of targeted multicomponent interventions (strategies to educate nurses, mobilize patients, monitor medication, environmental/ sensory modifications, improve clinical/functional outcomes)	Pre- and post-test design	3 medical wards	Population: age over 70 years and older; pre-phase: n=100; post-phase: n=129	06/1986-03/1987; 10 months	Exclusion: patients who were transferred from another unit or admitted for a short stay, terminal care		

Legend of above table:

(1) The exact designations of the settings and patient-samples were adopted from the original data of the studies. (The "geriatric setting" include the following terms (synonymous used): acute care for elders, acute care geriatric, acute care of elder(s) units, acute geriatric ward, care wards – specialized for elderly, elderly care, geriatric ward, ortho-geriatric rehabilitation (the latter unit does not designate a classical rehabilitation facility (exclusion criterion). This term refers to geriatric early rehabilitation in the acute hospital).

(2) PwD: People with Dementia

(3) MCI: Mild Cognitive Impairment

(4) RCT: Randomized Controlled Trial

(5) IG: Intervention Group

(6) CG: Control Group

X: People with dementia or cognitive impairment were exclusively included; studies performed in the geriatric setting.

(X): Studies also included participants with pre-existing dementia or cognitive impairment in their study population; studies were partly conducted in the acute geriatric setting; studies were performed in non-geriatric units/regular wards with a geriatric care concept.