

Study (year), country	Participants			Study design	Interventions						Outcomes measurement	
	Mean age ($\bar{x}$)	Sample size (Male/female)	Types of dementia, severity of dementia		Experimental group	Types of dolls	Control group	Emplacement	Intervention length, duration	Assessment time points		
Boyle et al. (2017), Australia		Total=415	MD, NA	Cluster-RCT		Empathy doll	Usual care	Long-term care facilities	Hours per session: 0.25, total: 10 weeks	Baseline, 10 weeks, 15 weeks	Agitated behaviour: CMAI-SF	
	EG1: 84±8.4	EG1=138 (37/101)										EG1: Therapeutic pet-type robot EG2: Doll therapy
	EG2: 86±7.6	EG2=140 (26/114)										
	CG: 85±7.1	CG=137 (38/99)										
Boyle et al. (2019), Australia		Total=33	MD, moderate to severe dementia	Parallel, RCT	Doll therapy	Life-like doll	Usual care	Long-term care facilities	Hours per session: 0.5, total: 3 weeks	Baseline, 1 week, 3 weeks	Emotional states: OERS Agitated behaviour: CMAI-SF	
	EG: 86.1±8.6	EG=18 (0/18)										
	CG: 89.7±8.4	CG=15 (0/15)										
Fantarella et al. (2018), Italy		Total=29	MD, moderate to severe dementia	RCT	Doll therapy	Life-like doll	Hand warmer	Nursing home	Hours per session: 1, total: 4 weeks	Baseline, 4 weeks	Overall behaviour: NPI-BPSD	
	EG: 85.31±6.21	EG=16										
	CG: 87.23±5.03	CG=13										
Calzotti et al. (2019), Italy		Total=30	MD, moderate to severe dementia	RCT	EG1: Gestural verbal treatment EG2: Doll therapy	Life-like doll	Usual care	Residenza Sociosanitaria Assistenziale per Anziani "Storelli"	Hours per session: 1, total: 12 weeks	Baseline, 12 weeks	Overall behaviour: NPI-Q	
	EG1: 82.4±5.7	EG1=10										
	EG2: 87.8±6.6	EG2=10										
	CG: 86.9±5.2	CG=10										
Lai et al. (2019), China		Total=186	AD, NA	RCT	Doll therapy	Life-like doll	Usual care	Hospital	Hours per session: 1, total: 4 weeks	Baseline, 4 weeks	Cognition: MMSE Quality of life: QOL-AD	
	EG: 70.53±3.51	EG=93 (42/51)										
	CG: 69.25±3.76	CG=93 (45/48)										
Irmaz et al. (2020), Turkey		Total=29	MD, moderate to severe dementia	Double-blinded RCT	Doll therapy	Life-like doll	No intervention	Elder facility	Hours per session: 2–3, total: 8 weeks	Baseline, 4 weeks, 8 weeks	Overall behaviour: NPI Agitated behaviour: CMAI Cognition: SMMSE	
	EG: 83.53±5.89	EG=15 (5/10)										
	CG: 82.30±7.55	CG=14 (9/5)										
Zhen et al. (2020), China		Total=80	MD, NA	RCT	Doll therapy	Empathy doll	Usual care	Hospital	NA	NA	Agitated behaviour: CMAI Cognition: MMSE Quality of life: QOL-AD	
	EG: 73.7±2.7	EG=40 (24/16)										
	CG: 74.2±3.0	CG=40 (25/15)										

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Li (2020), China		Total=186	AD, NA	RCT	Doll therapy	NA	Usual care	Hospital	Hours per session: 1, total: 4 weeks	Baseline, 4 weeks	Cognition: MMSE
	EG: 69.26±3.77	EG=93 (45/48)									
	CG: 70.54±3.52	CG=93 (42/51)									Quality of life: QOL-AD
Li (2021), China	83.81±8.75	Total=16	MD, NA	Randomised block design	Doll therapy	Life-like doll	No intervention	Nursing home	Hours per session: 0.75–1, total: 2 weeks	Baseline, 2 weeks	Overall behaviour: NPI
		EG=8 (NA)									
		CG=8 (NA)									
Santagata et al. (2021), Italy	EG: 87.0±7.0	Total=52	MD, moderate to severe dementia	RCT	Doll therapy	Life-like doll	Usual care	Nursing home	Hours per session: 2, total: 12 weeks	Baseline, 6 weeks, 9 weeks	Overall behaviour: NPI
	CG: 86.0±6.0	EG=26 (5/21)									Cognition: SPMSQ
		CG=26 (4/22)									
Yang et al. (2021), China		Total=60	AD, NA	RCT	Doll therapy	Empathy doll	Usual care	Hospital	Hours per session: 1, total: 4 weeks	Baseline, 4 weeks,	Overall behaviour: BEHAVE-AD
	EG: 67.44±8.47	EG=31 (15/21)									Cognition: MoCA
	CG: 67.13±8.46	CG=29 (15/14)									Quality of life: ADCS-ADL
Molteni et al. (2022), Switzerland	EG: 86.9±5.9	Total=129	MD, moderate to severe dementia	Single-blinded RCT	Doll therapy	Empathy doll	Sham intervention	Nursing home	Hours per session: 1, total: 72 weeks	Baseline, 72 weeks	Overall behaviour: NPI-NH
	CG: 88.4±5.5	EG=64 (0/64)									Agitated behaviour: NPI-NH
		CG=65 (0/65)									

AD: Alzheimer’s disease dementia; ADCS-ADL: Alzheimer’s Disease Cooperative Study-Activities of Daily Living; BEHAVE-AD: Behavioral Pathology In Alzheimer’s Disease Rating Scale; BPSD: behavioural and psychological symptoms of dementia; CMAI: Cohen Mansfield Agitation Inventory Scale; CMAI-SF: Cohen Mansfield Agitation Inventory Short Form; CG: control group; EG: experimental group; MD: mixed dementia; MMSE: Mini Mental Status Examination; NA: not applicable; NPI: Neuropsychiatric Inventory Scale; NPI-BPSD: Neuropsychiatric Inventory BPSD Scale; NPI-NH: Neuropsychiatric Inventory Nursing Home Scale; NPI-Q: Neuropsychiatric Inventory Questionnaire; OERS: Observed Emotion Rating Scale; QOL-AD: Quality of Life in Alzheimer's Disease; RCT: randomised controlled trial; SMMSE: Standardized Mini-Mental Status Examination; SPMSQ: Short Portable Mental Status Questionnaire