Table 1. Characteristics of included studies

Study	Patients	Intervention		Comparison		Outcomes of	Follow-up
		Characteristics	Туре	Characteristics	Туре	interest reported	
Early behavioral	interventions						
Dawson, 2010	Children aged between 18- 36 months diagnosed with ASD or PDD NOS	n = 24 Mean age (SD): 23.9 (4.0) months Male (%): NR Ethnicity Asian: 12.5%* White: 72.9%* Latino: 12.5%* Multiracial: 14.6%* Maternal education: NR	ESDM group received 2-hour ESDM sessions, twice per day, 5 days per week, for 2 years. Parents received parent training during semimonthly meetings.	n = 24 Mean age (SD): 23.1 (3.9) months Male (%): NR Ethnicity Asian: 12.5%* White: 72.9%* Latino: 12.5%* Multiracial: 14.6%* Maternal education: NR	Assess-and-monitor group received diagnostic evaluations, intervention recommendations and community referrals at baseline and at each follow-up assessment.	Social communication (ADOS-CCS) Adaptive behavior (VABS composite score)	2 years
Estes, 2015	Children diagnosed with an ASD at age 18-30 months	n = 21 Mean age (SD): 72.9 (2.6) months* Male (%): 76.2% Ethnicity: NR Maternal education College grad: 62% Some college: 28% No college: 10%	ESDM group received 2-hour ESDM sessions, twice per day, 5 days per week, for 2 years. Parents received parent training during semimonthly meetings.	n = 18 Mean age (SD): 72.9 (2.6) months* Male (%): 77.8% Ethnicity: NR Maternal education College grad: 70% Some college: 18% No college: 12%	Assess-and-monitor group received diagnostic evaluations, intervention recommendations and community referrals at baseline and at each follow-up assessment.	Social communication (ADOS total) Adaptive behavior (VABS composite score)	Age 6 assessment of <i>Dawson</i> (2010)
Kasari, 2015	Children aged <36 months with a diagnosis of ASD	n = 43 Mean age (SD): 30.7 (3.5) months Male (%): 81% Ethnicity African American: 0% Caucasian: 63% Hispanic: 7% Asian: 9% Other: 21% Mean maternal education (SD): 17.2 (2.3) years	JASPER model included the child and his/her parent for 1-hour weekly sessions for 10 weeks with active coaching of the parent by a trained interventionist.	n = 43 Mean age (SD): 32.3 (2.7) months Male (%): 81% Ethnicity African American: 5% Caucasian: 60% Hispanic: 9% Asian: 14% Other: 12% Mean maternal education (SD): 16.4 (2.6) years	Psychoeducational intervention consisting of 1:1 interventionist meetings of 1 hour per week for 10 weeks, aiming to provide individual education and support to parents of young children with ASD.	Social communication (joint engagement, initiations of joint attention)	6 months

Van den Berk- Smeekens, 2021	Children aged 3-8 years with a diagnosis of ASD	n = 25 Mean age (SD): 6.43 (1.71) years Male (%): 88% Ethnicity: NR Maternal education Low: 16.7% Average: 50.0% High: 33.3%	PRT consisting of 14 parent-child sessions, 4 parent-only sessions, and 2 teacher sessions. Each session had a duration of 45 min.	n = 23 Mean age (SD): 6.09 (1.30) years Male (%): 82.61% Ethnicity: NR Maternal education Low: 21.7% Average: 26.1% High: 52.2%	TAU condition consisted of guidance of parents, intensive family therapy, treatment at school, social skill training, pharmacotherapy, or a combination.	Social communication (ADOS-2 CSS) Global functioning (CGI-I)	3 months
Poslawsky, 2015	Primary caregiver(s) of children aged 16-61 months with ASD	n = 40 Caregivers Mean age (SD): 36.8 (4.84) years Male (%): 10%* Children Mean age (SD): 42.16 (9.02) months Male (%): NR Ethnicity: NR Maternal education: NR	VIPP-Auti comprising 5 home visits of 60-90 min each at a 2- weekly frequency. Additionally, two group meetings for psycho-education about ASD in general were provided.	n = 38 Caregivers Mean age (SD): 36.42 (5.30) years Male (%): 10%* Children Mean age (SD): 43.80 (10.92) months Male (%): NR Ethnicity: NR Maternal education: NR	Usual care consisting of 5 1.5-hour home-based nursing care sessions. It was meant to support the parents with respect to practical issues of parenting a child with ASD. Additionally, two group meetings for psycho-education about ASD in general were provided.	Social communication (ESCS) Patient satisfaction (CSQ-8)	3 months
Ginn, 2017	Families with children diagnosed with ASD	n = 15 Mean age (SD): 4.32 (1.16) years Male (%): 80% Ethnicity (%Caucasian): 86.7% Maternal education (% completed ≥2 years college): 80%	Weekly child-directed interaction training sessions of 60 to 75 minutes long.	n = 15 Mean age (SD): 5.12 (1.39) years Male (%): 80% Ethnicity (%Caucasian): 80% Maternal education (% completed ≥2 years college): 86.7%	Waitlist	Social communication (SRS)	16 weeks
Nefdt, 2010 $^{ abla}$	Primary caretakers of children aged < 60 months with autism	n = 13 <u>Caregivers</u> Mean age (SD): 36.31 (5.38) years Male (%): 12%* <u>Children</u>	PRT consisting of an interactive DVD with an accompanying manual covering the procedures used in PRT.	n = 14 <u>Caregivers</u> Mean age (SD): 36.21 (4.54) years Male (%): 12%* <u>Children</u>	Waitlist	Patient satisfaction	No follow- up

		Mean age (SD): 38.92 (14.57) months Male (%): 92.6%*		Mean age (SD): 38.43 (11.20) months Male (%): 92.6%*			
		Ethnicity: NR Maternal education: NR		Ethnicity: NR Maternal education: NR			
Pajareya, 2011 [▽]	Children aged 2-6 years and their parents	n = 16 Mean age (SD): 56.6 (10.1) months Male (%): 81.3% Ethnicity: NR Mother with bachelor's degree or higher: 62.5%	Home-based DIR/Floortime parent training consisting of visits and a 3-hour DVD lecture plus manual.	n = 16 Mean age (SD): 51.5 (13.9) months Male (%): 62.5% Ethnicity: NR Mother with bachelor's degree or higher: 87.5%	TAU for three months while waiting for the DIR/Floortime parent training	Social communication (CARS) Emotion regulation (FEAS)	3 months
Rogers, 2012 [▽]	Toddlers at risk for ASD aged 12-24 months and their families	n = 49 Mean age (SD): 21.02 (3.51) months Male (%): 75.5% Ethnicity white: 69.4%	P-ESDM consisting of 12 consecutive 1-hour sessions.	n = 49 Mean age (SD): 20.94 (3.42) months Male (%): 62.5% Ethnicity white: 75.5%	TAU	Social communication (ADOS-T) Adaptive behavior (VABS composite score)	24 months
		Maternal education Less than high school: 12.8% Some college: 21.3% College: 36.2% Graduate school: 29.8%		Maternal education Less than high school: 27.1% Some college: 16.7% College: 43.8% Graduate school: 12.5%			
Tonge, 2014 [▽]	Children aged 2,5 to 5 years diagnosed with ASD and their parents	n = 35 Mean age (SD): 43.24 (7.35) months Male (%): 87.88% Ethnicity: NR Maternal education: NR	Parent education and counseling (PEAC) intervention consisting of a manual based education program. 10 90-min small group sessions were alternated with 10 60-min individual family sessions.	n = 35 Mean age (SD): 50.11 (9.90) months Male (%): 11.43% Ethnicity: NR Maternal education: NR	TAU consisting of local early childhood services	Social communication (CARS) Adaptive behavior (VABS subscales)	6 months
Tellegen, 2014 [▽]	Parents or caregivers of a 2- to 9-year old child with	n = 35 <u>Caregivers</u> Mean age (SD): 36.83 (4.66) years	Primary care stepping stones triple P: a brief parenting program	n = 29 <u>Caregivers</u> Mean age (SD): 38.07 (5.03) years	Care as usual	Patient satisfaction (CSQ)	6 months

	an ASD diagnosis.	Male (%): NR Children Mean age (SD): 5.66 (2.18) years Male (%): 82.86% Ethnicity White/Australian: 88.57% Other: 11.43%	consisting of four short sessions	Male (%): NR Children Mean age (SD): 5.69 (2.12) years Male (%): 89.66% Ethnicity White/Australian: 89.66% Other: 10.34%			
		Parental education High school: 45.71% TAFE/trade/university: 54.29%		Parental education High school: 51.72% TAFE/trade/university: 48.28%			
Oosterling, $2010^{ abla}$	Children aged 12-42 months with ASD and their parents	n = 36 Mean age (SD): 35.2 (5.5) months Male (%): 75.0% Ethnicity: NR Maternal education Low: 41.7% Middle: 33.3% High: 25.0%	The Focus Parent Training intervention program using a parent-as-therapist model and adopting an eclectic approach within a social- pragmatic and developmental context. It consisted	n = 31 Mean age (SD): 33.3 (6.4) months Male (%): 80.6% Ethnicity: NR Maternal education Low: 41.9% Middle: 35.5% High: 22.6%	Care as usual consisting of speech and language therapy, motor therapy, music therapy, and play therapy on an individual basis.	Social communication (ADOS)	12 months
		Paternal education Low: 34.3% Middle: 20.0% High: 45.7%	of weekly 2-hour group sessions as well as 3-hour home visits every 6 weeks.	Paternal education Low: 56.7% Middle: 26.7% High: 16.7%			

Abbreviations: ADOS(-T) = autism diagnostic observation schedule (for toddlers); ASD = autism spectrum disorder; CARS = childhood autism rating scale; CGI-I = clinical global impression-improvement scale; CSQ = client satisfaction questionnaire; DIR = developmental, individual-difference, relationship-based; ESCS = early social communication scales; ESDM = early start Denver model; FEAS = functional emotional assessment scale; NR = not reported; PDD = pervasive development disorder; PRT = pivotal response treatment; SD = standard deviation; SRS = social responsiveness scale; TAU = treatment as usual; VABS = vineland adaptive behavior scales; VIPP-Auti = Video-feedback intervention to promote positive parenting adapted to autism.

^{*} Values reported are for the total population

[▽] Selected based on study selection by Deb (2020)