

Session 6 – Naturalistic Effect Evaluation

What are the effects of ‘parenting support interventions’ on parents and children

ZonMw Symposium

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Background

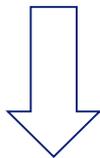
Many parenting interventions: “Prevention” and “Light care”

(a) Need (b) Use (c) Available interventions (d) Satisfaction (e) Effects (f) Distinct ‘elements’

- Practice Research Verwey Jonker Institute
- Literature overview Verwey Jonker Institute
- Public Impact Hosman Consultancy
- Study of handbooks & protocols LUMC
- Meta-analysis LUMC
- Parenting problems & support & help Erasmus MC

▪ Effect evaluation

Erasmus MC



Cohort study → “Naturalistic effect evaluation”



Study questions

1. What are the **questions or concerns** parents have regarding parenting, the behavior or the development of the child?
2. What are the **needs** of parents regarding parenting?
3. To what extent do parents **use and appreciate (the elements of) parenting support**?

4. Is exposure to (the elements) of parenting support associated with an improvement of the ‘parenting-outcomes’ and the ‘child-outcomes’?

Methodology – Naturalistic effect evaluation

- Windhorst DA, Fang Y, Fierloos IN, Crone MR, Van Mourik K, Jonkman H, Hosman CMH, Jansen W, Raat H. Evaluation of effectiveness of (elements of) parenting support in daily practice of preventive youth health care; design of a naturalistic effect evaluation in 'CIKEO' (consortium integration knowledge promotion effectiveness of parenting interventions). *BMC Public Health*. 2019 Nov 6;19(1):1462. doi: 10.1186/s12889-019-7785-y. PMID: 31694586; PMCID: PMC6836651.
- **Naturalistic effect evaluation = a cohort study; compare similar groups with and without parenting support and compare outcomes at follow-up**
 - Daily practice: who gets prevention, who gets problems, who gets care
 - Baseline and follow-up after 12 months
- **Enrolment of participants**
 1. Two preventive Youth Health Care providers: parents of children 1 to 8 years
net N=754 (T0 and T1)
 2. Providers of parenting programs + online recruitment: parents of children 1 to 8 years who plan to participate in a parenting intervention
net N=128 (T0 and T1)



'No trials allowed': Natural variation in prevention and care use

1. Randomised trial ('no confounders')

N=100 *Randomise* →

N=50 Treatment	→	Outcomes after 12 months
N=50 No Treatment	→	Outcomes after 12 months

2. Controlled trial ('control for confounders')

N=100

Similar sample and context (except for treatment) →

N=50 Treatment	→	Outcomes after 12 months
N=50 No Treatment	→	Outcomes after 12 months

3a. Naturalistic effect evaluation: 'light care' ('control for confounders')

N=1000	N=50	Problems	→ Treatment	→	Outcomes after 12 months
	N=50	Problems	→ No Treatment	→	Outcomes after 12 months
	N=900	No problems		→	Outcomes after 12 months

3b. Naturalistic effect evaluation: 'prevention' ('control for confounders')

N=1000	N=500		→ Prevention	→	Outcomes after 12 months
	N=500		→ No Prevention	→	Outcomes after 12 months

Methodology – data collection



- Outcomes: Parents and family
 - Parenting sense of competence (PSOC)
 - Parenting daily hassle (PDH)
 - Parenting distress (PS)
 - Family functioning (FF)
- Outcomes: Children
 - Emotional and behavioral problems (CBCL)



Analyses: 2 methods to control for ‘confounding factors’

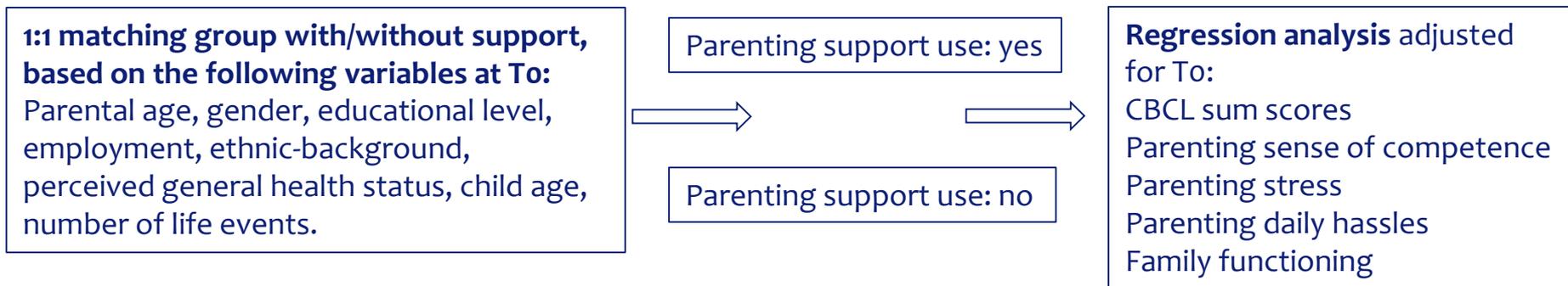
Effects of parenting support ‘as a whole’ and effects of specific ‘elements’

- **Linear Regression:** adjusted for demographic characteristics of the participants and the baseline values of the outcomes

e.g. to explore the effect of receiving ‘parenting intervention as a whole’ on ‘parenting stress’ at T1, we constructed the following model

Parenting stress at T1 ~ parenting intervention (yes/no) + Parenting stress To + demographics + parental/child general health + no of life events + perceived social support + no of care used + recruitment methods (Part A/B) + parenting distress + parenting sense of competence + parenting daily hassle + family functioning)

- **Propensity Score Matching: 2 steps**



→ POLL 1



Characteristics of the study population (baseline N=1118)

Respondents

- 90% mothers
- Mean age mother: 34 years (SD=5)
- Mean age father: 36 years (SD=6)
- 7% 'single parent family'
- 14% migration background
- Education level
 - 55% high
 - 37% middle
 - 8% low

Children

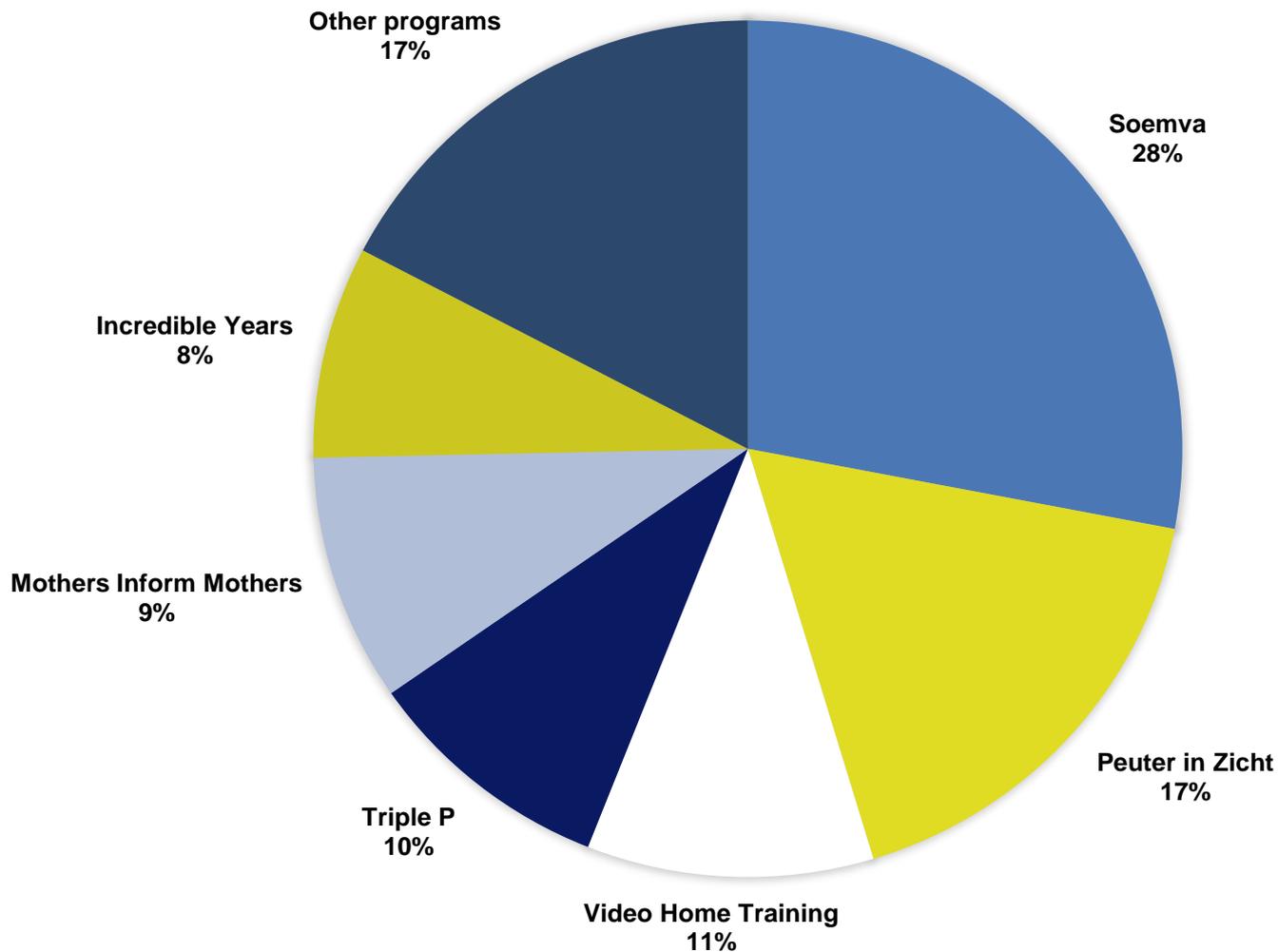
- Age: 0-8 years (mean 3 y; SD=2 y)



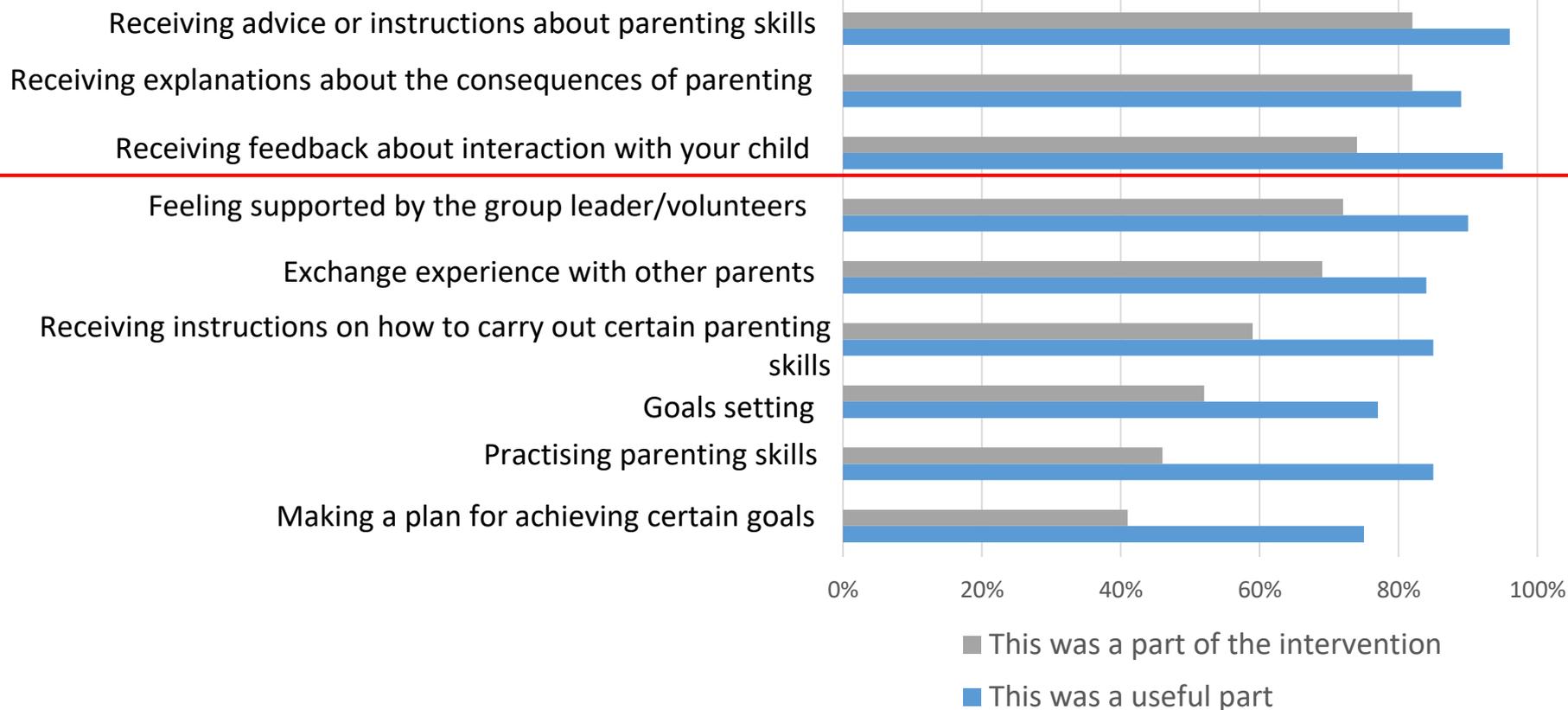
To what extent do parents report receiving 'parenting support'?

1. **'Contact moments' Child preventive health care system ('Consultatiebureau')**
 - 85% 'always' go
 - 76% of those who go (n=235) parenting advise during 1 year
2. **Theme meetings (group discussion about parenting)**
 - 8% during 1 year
3. **'Specific' parenting support programs**
 - 8% during 1 year
4. **Informal parenting support**
 - 93%

PARENTING INTERVENTIONS BETWEEN BASELINE AND FOLLOW-UP (N=58)



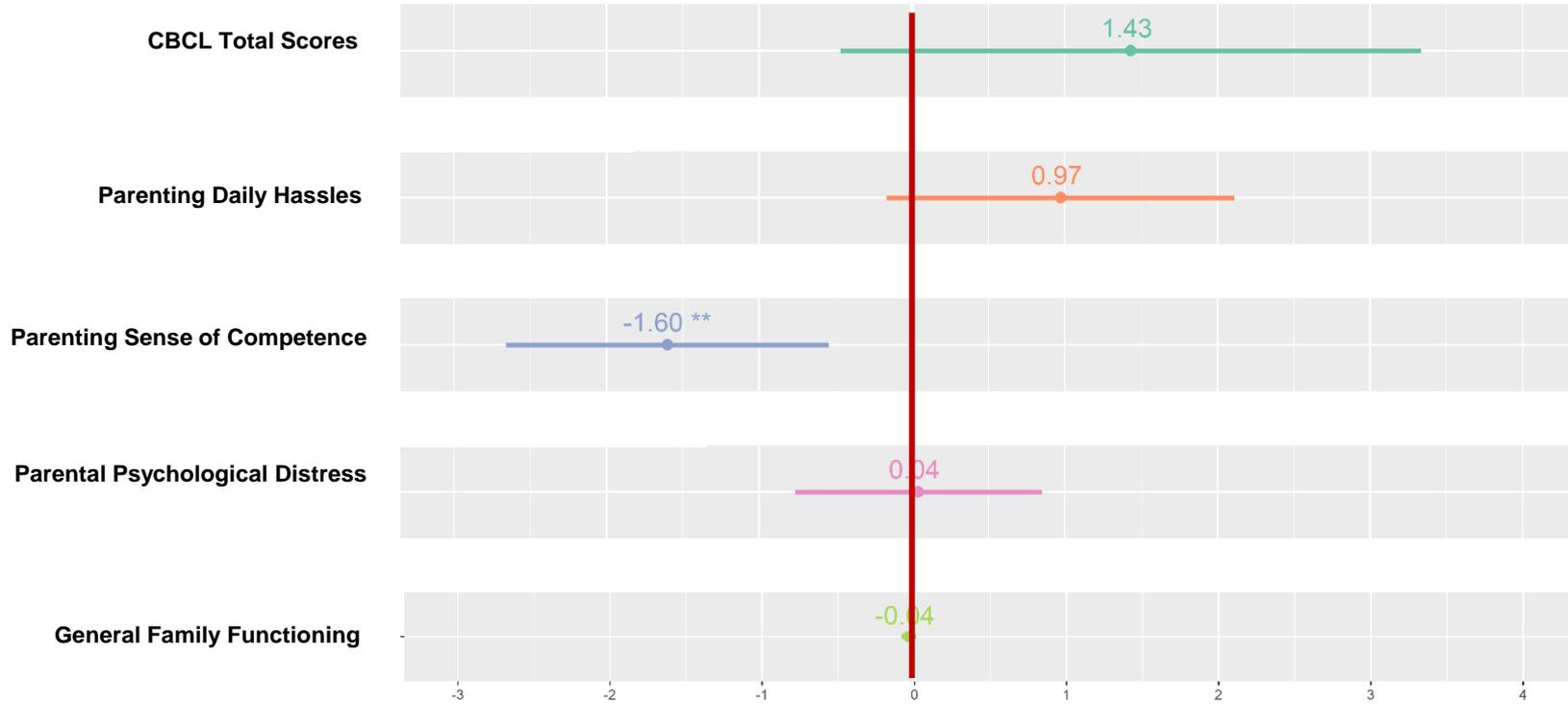
Key elements (active ingredients) in 'official' parenting interventions reported by parents (n=58)



Outcomes (1) – Is exposure to ‘any parenting support’ associated with better outcomes?

Child , parental and family outcomes

beta and 95% CI

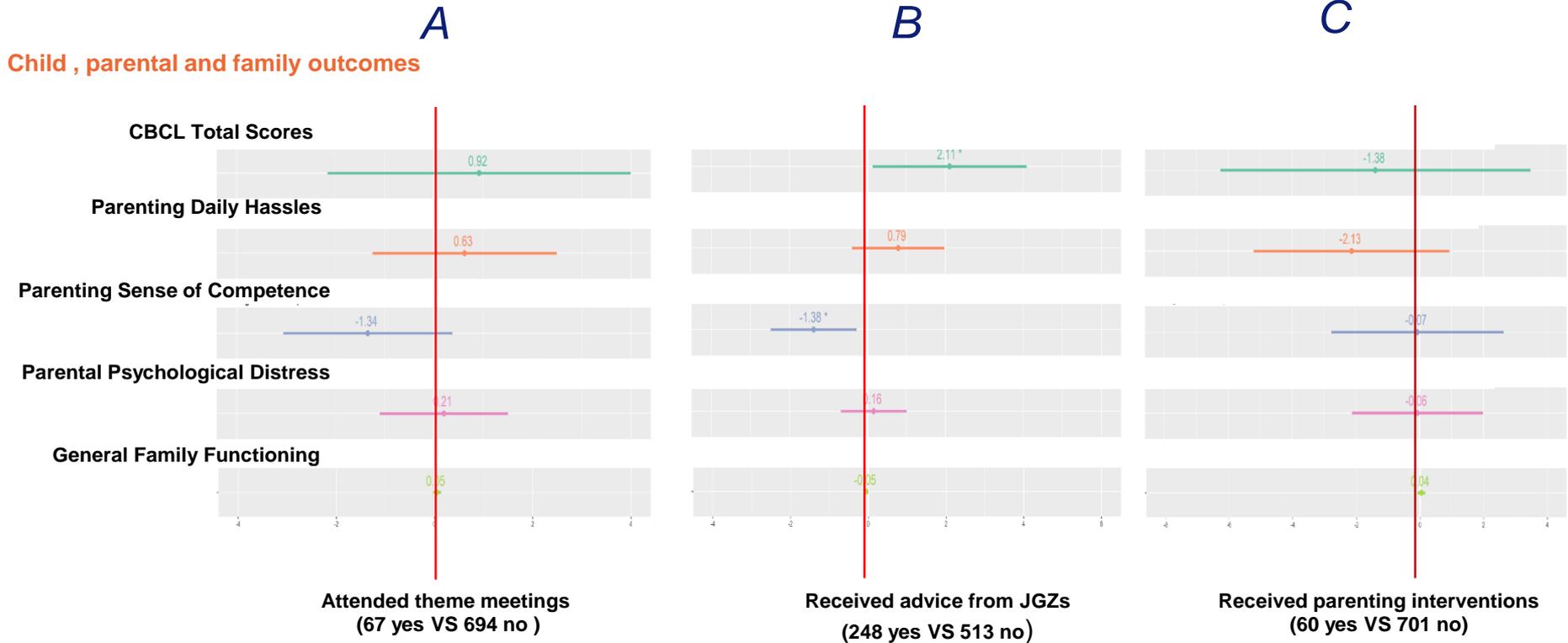


Receiving ‘any parenting support’ (n=318 yes versus n= 443 no)

Effects of receiving ‘any parenting support’ (i.e. parenting intervention, theme meetings, received advice from YHC) during T0 and T1 on various parental, child and family outcomes.

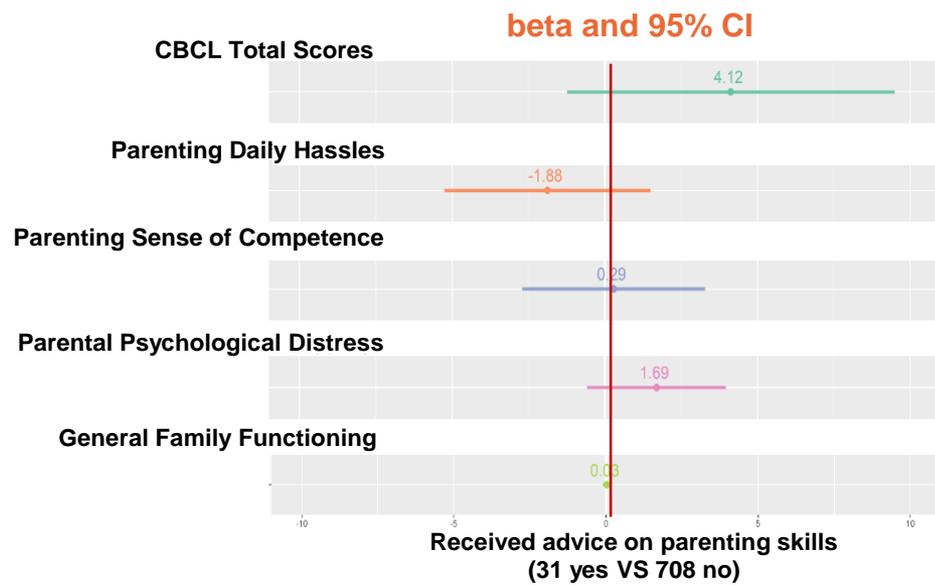
Notes: red vertical line stands for beta=0
* Indicates statistical significance

beta and 95% CI



Effects of *attended theme meetings* (A), *received advice from JGZs* (B) and *parenting interventions*(C) during To and T1 on various parental, child and family outcomes.

Notes: red vertical line stands for beta=0
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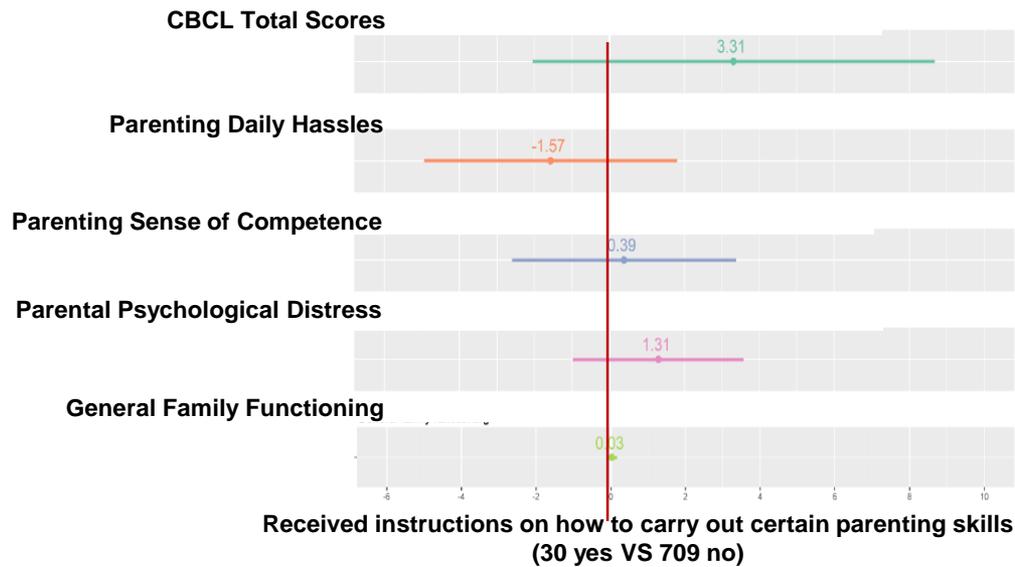


Figure 3. Effects of parental reported *effective elements* in interventions during T0 and T1 on various parental, child and family outcomes.

Outcomes (2) – Propensity score matching

Is exposure to ‘any parenting support’ associated with better outcomes?

Propensity score matching. Effects of receiving parenting support on various parental child and family outcomes

	CBCL sum scores		parenting sense of competence		parenting distress		parenting daily hassle		family functioning	
	beta	P value	beta	P value	beta	P value	beta	P value	beta	P value
Any parenting support	1.68	0.143	-1.3	0.032	0.18	0.713	0.66	0.33	-0.05	0.091
Parenting interventions	4.12	0.366	-0.84	0.703	1.19	0.545	1.45	0.649	0.02	0.829
Theme meetings	3.69	0.162	-0.74	0.569	0.09	0.936	1.36	0.318	0.06	0.283
Received advice from JGZs	1.87	0.141	-1.74	0.008	-0.01	0.979	0.56	0.434	-0.03	0.26

Notes: bold and italic indicates statistical significance

Discussion: What did we find and show?

1. We could NOT show benefits of combined or ‘stand alone’ interventions, nor of ‘specific elements’ of interventions
2. Both statistical procedures gave a similar ‘picture’
3. Lower ‘parenting sense of competence’ (that was found a few times) might be the consequence of being ‘more aware’ of what you ‘cannot do’ when you give more attention to parenting.
4. Slightly higher level of emotional and behavioral problems in children in families where parents reported ‘advice from Youth Health Care’, might be due to ‘confounding by indication’ (*‘problems are the reason to ask advice’*)



→ POLL 2



Considerations regarding this study type

1. **Very low ‘exposure’ to specific ‘strong’ parenting support interventions**
 - low numbers
 - low power to find statistically significant effects
2. Interventions probably associated with ‘issues’, so = ‘light care’
 - ‘confounding by indication’ (not captured at To)
 - Those who go to an ‘intervention’ are in a ‘worse situation’
 - **This ‘worse situation’ may have developed half way (not measured)**
3. Maybe, the **‘interventions’ were not ‘strong/effective’ enough** to result in an ‘effect’ in the way we measured this (parent questionnaire)



Conclusion



1. Informative for other CIKEO questions

- What are worries of parents
- What need for prevention and care do parents have
- Which prevention and care do parents use
- Satisfaction with prevention and care
- Which 'elements' do the parents recognize, and how do they rate it
- Natural course of worries and problems
- Determinants of problems and care use

2. Lessons on 'When and How to do a naturalistic effect evaluation'

Acknowledgement

HET CIKEO CONSORTIUM



*Hosman
Prevention
Consultancy
& Innovation*

