Parents, Poverty and Child Potential: Family Effects of Interventions

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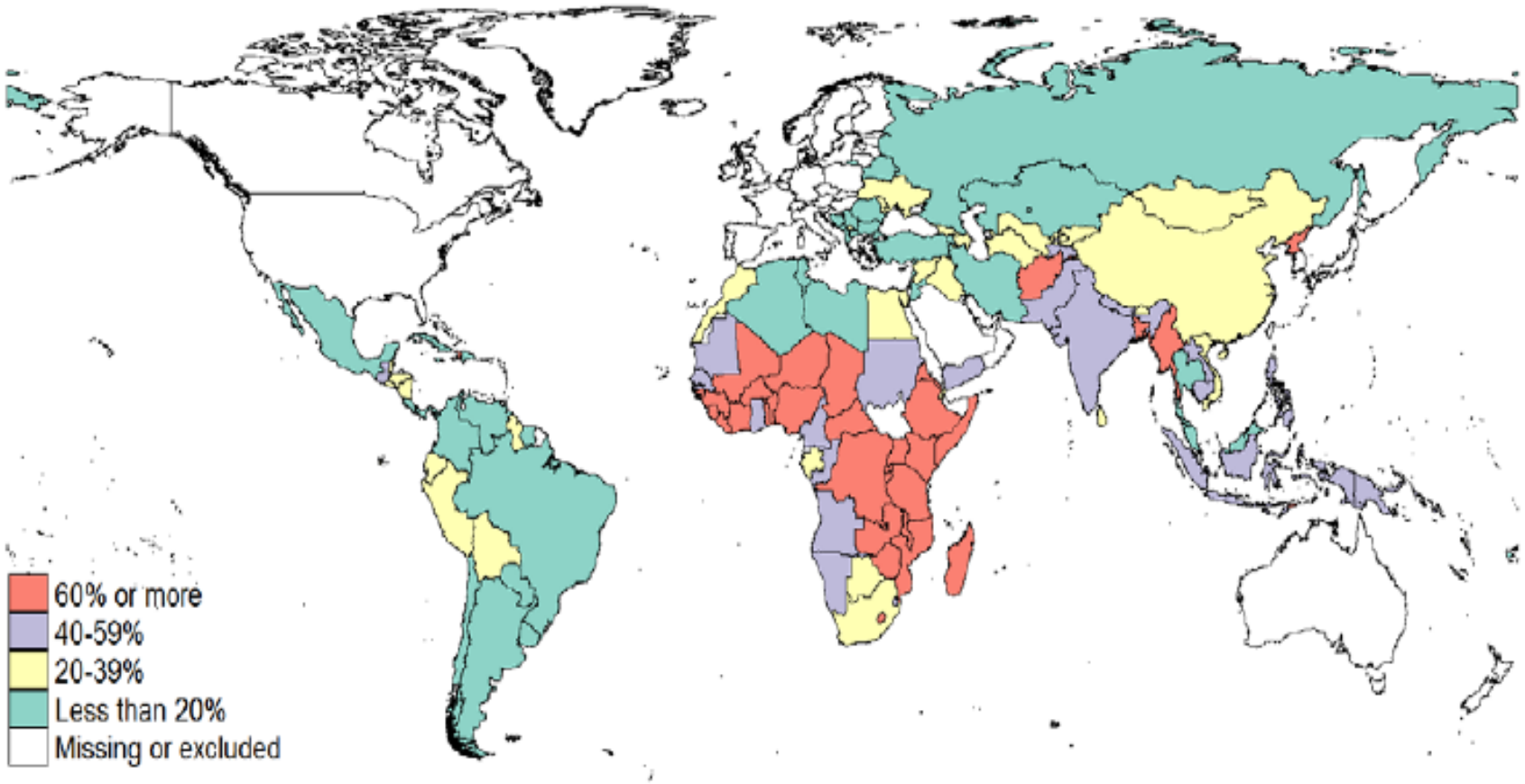
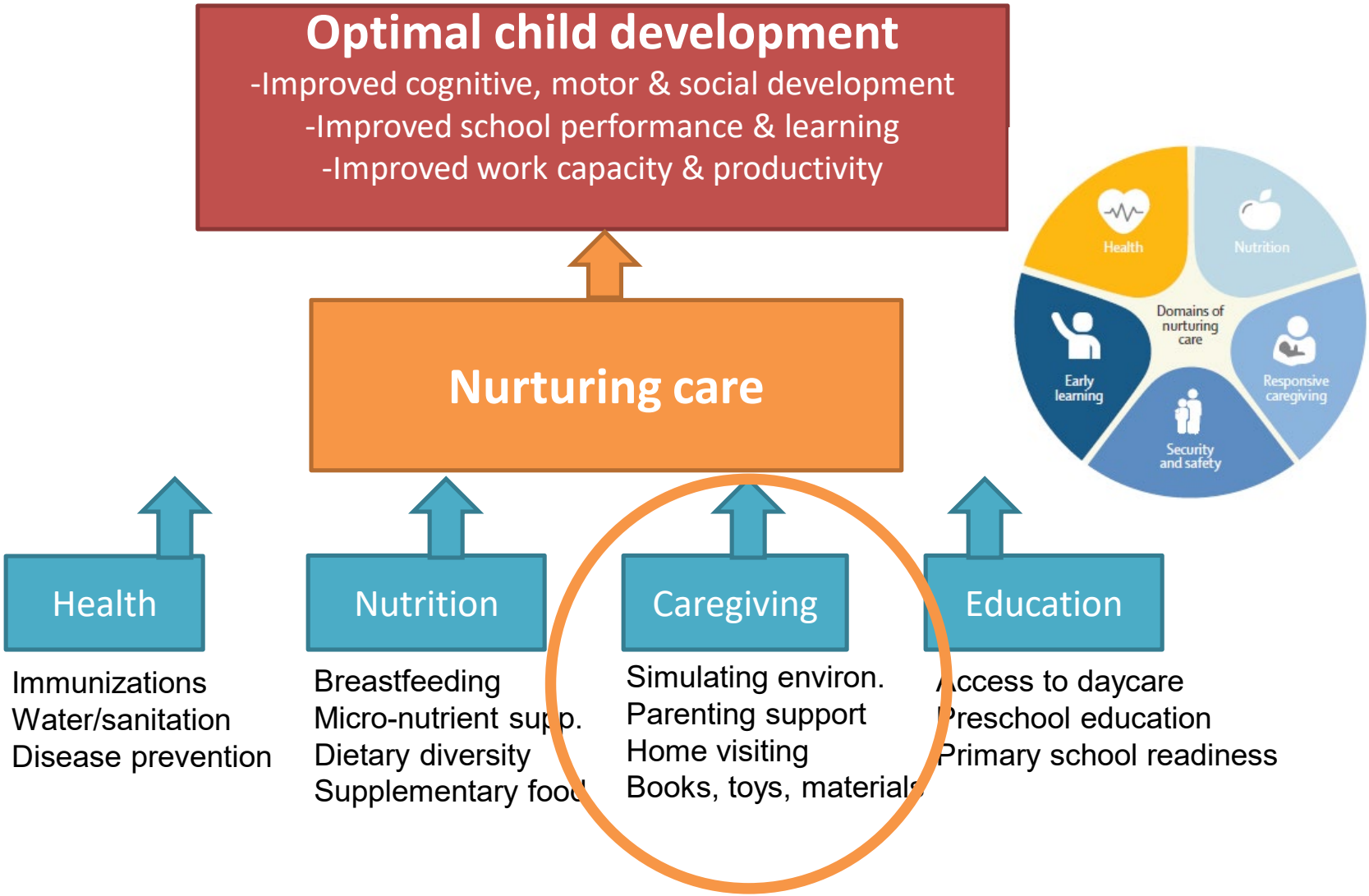
Questions for today

- How do family factors shape early child development (ECD)?
  - What role does maternal depression play in ECD in the context of poverty?
  - What role do parental perceptions play for ECD?
- How do interventions focused on children affect maternal outcomes?
  - How to these results vary by intervention (e.g. cash transfer programs, WASH promotion, cognitive stimulation)

>250 million disadvantaged children, 0-5y

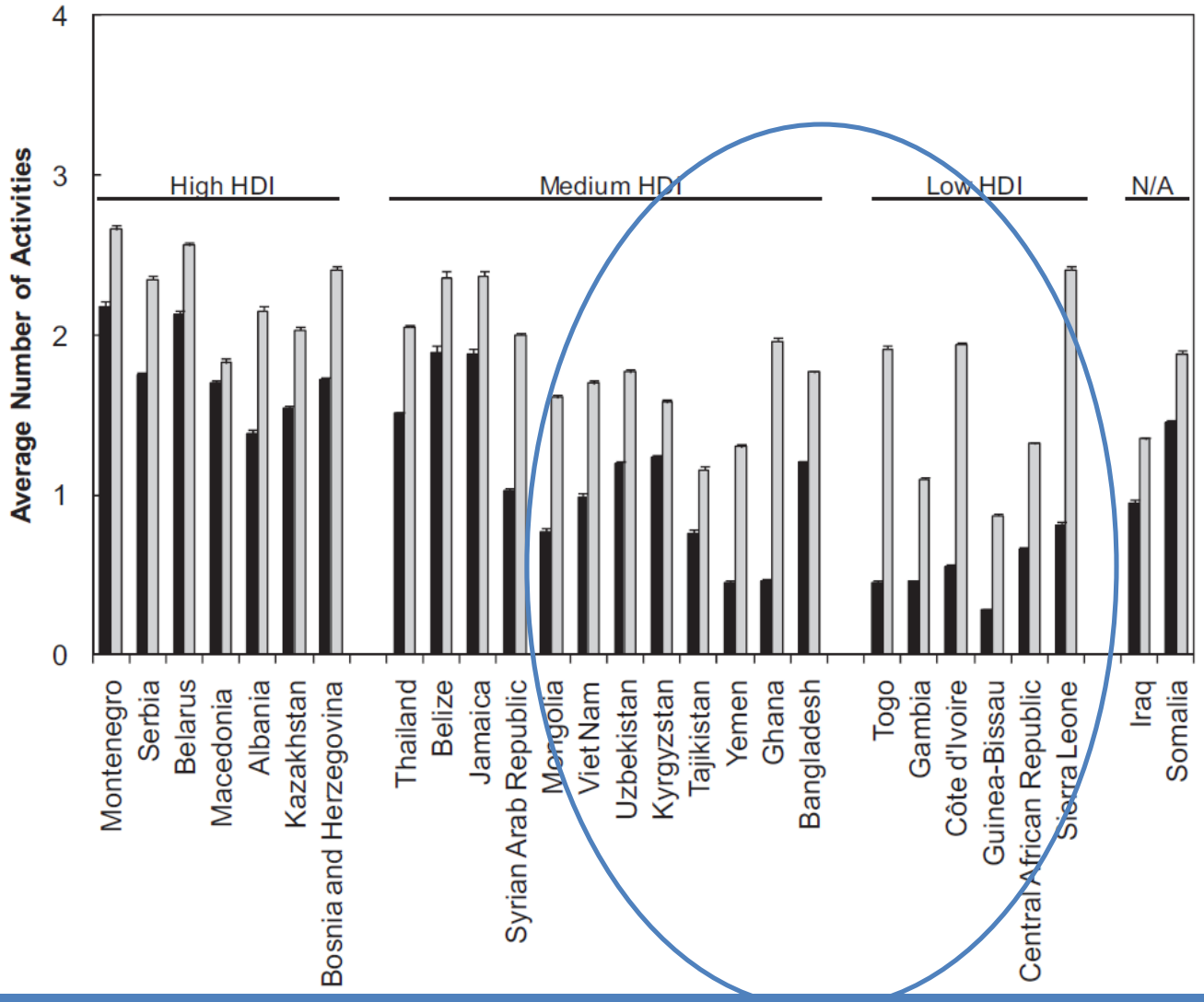


Percentage of stunted or impoverished children under 5 years old by country
Black, Walker, Fernald et al., *Lancet* (2017)



Black, Walker, Fernald et al. The Lancet (2018)

Caregiving related to HDI

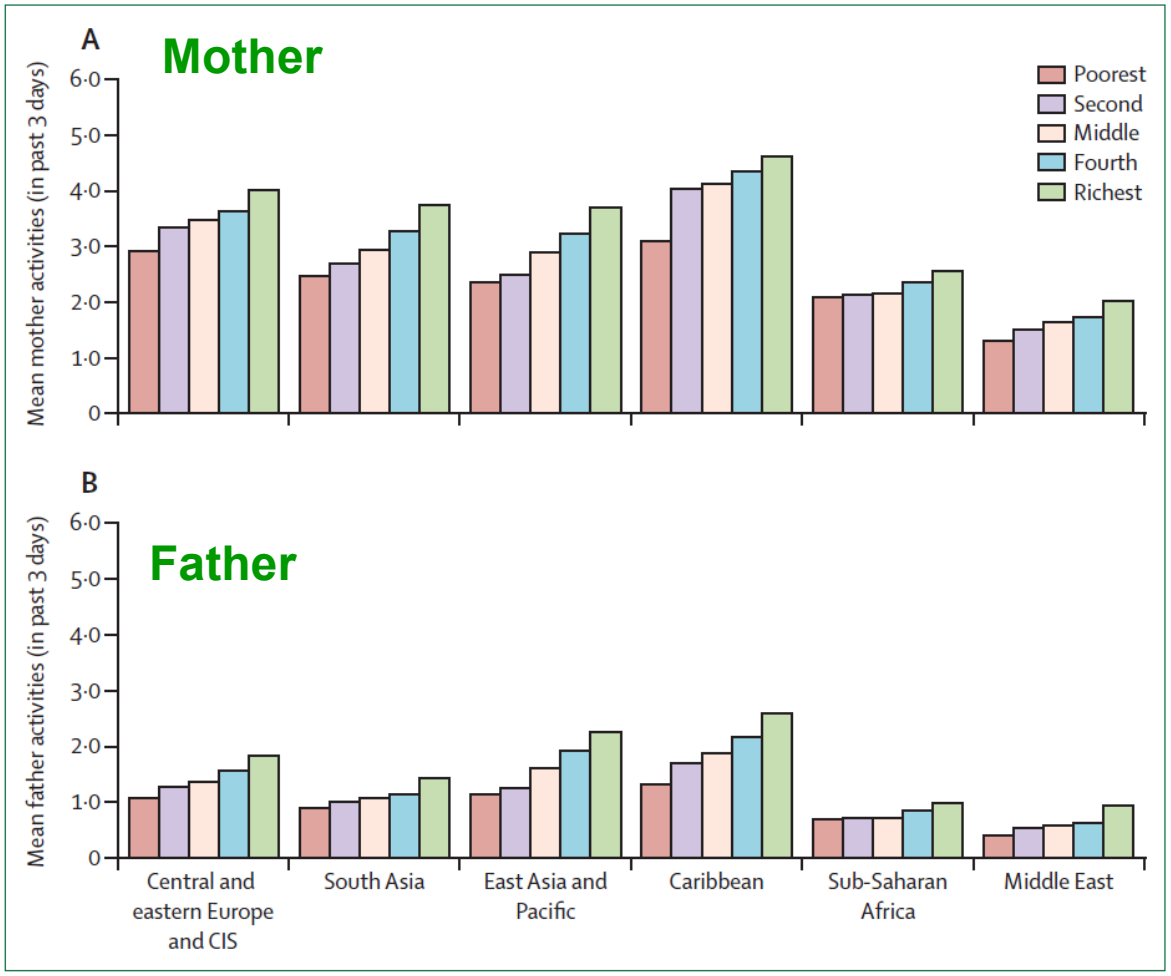


Low cognitive & higher socio-emotional care-giving

Figure 2. Average number of cognitive (■) and socioemotional (□) caregiving activities of mothers in developing countries in the past 3 days, arranged by high, medium, and low national Human Development Index.

Bornstein & Putnick, *Child Development* (2012)

Parental activities by region and income



1-3 activities with children in past 3 days for poorer income quintiles

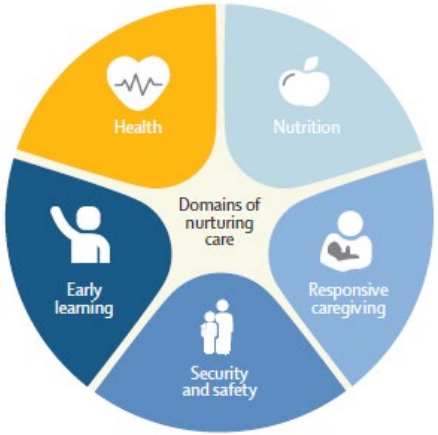
0-1 activities with children in past 3 days for poorer income quintiles

Figure 2: Mother's (A) and father's (B) total activities in the past 3 days by sampled countries within region and within-country wealth quintile for 38 countries

Engle, Fernald, Alderman et al. Lancet, 2011

Optimal child development

-Improved cognitive, motor & social development
-Improved school performance & learning
-Improved work capacity & productivity

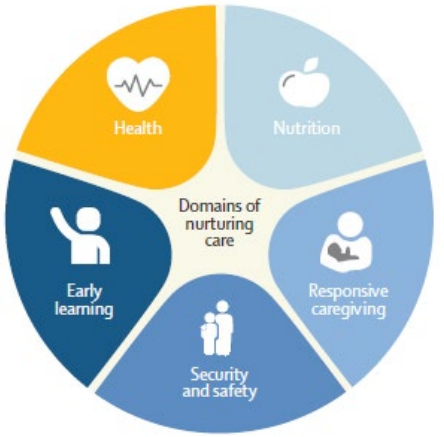


Black, Walker, Fernald et al. The Lancet (2018)

Optimal child development

-Improved cognitive, motor & social development
-Improved school performance & learning
-Improved work capacity & productivity

Nurturing care



Health	Nutrition	Caregiving	Education
Immunizations Water/sanitation Disease prevention	Breastfeeding Micro-nutrient supp. Dietary diversity Supplementary food	Simulating environ. Parenting support Home visiting Books, toys, materials	Access to daycare Preschool education Primary school readiness

Enabling environment for caregiver & family

Adequate nutrition during pregnancy, antenatal care, safe delivery, maternal mental health

Social, economic, political context

Good governance, employment, security, housing, political commitment (e.g. parental leave/support for childcare, child protection, social safety nets (e.g. CCTs)

Black, Walker, Fernald et al. The Lancet (2018)

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Maternal knowledge & perceptions

- Maternal knowledge and perceptions of parenting are critical for child development (Hernandez-Martinez et al. 2011, Pauli-Pott et al. 2006, Olson et al., 1989)

- Given that a mother's time is limited and often split between multiple responsibilities, how a mother perceives her child to be developing could influence her investment and interactions with her child

- However, there is little research on parental perceptions in low-income countries.

ASQ-I Measurement

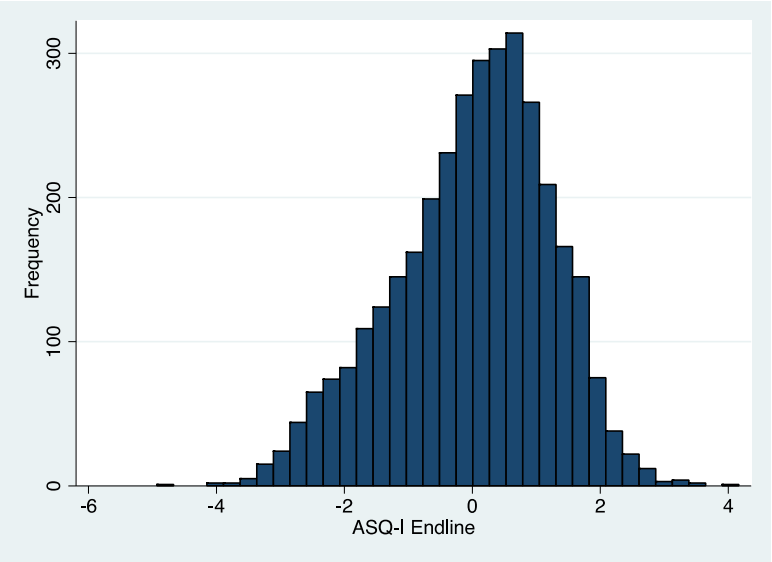
Problem Solving

Please mark either a:
Y for Yes,
S for Sometimes, and
N for Not Yet

	1st	2nd	3rd	4th
1 up to 3 month babies start here:				
1. Does your baby look at objects that are 8-10 inches away? 1-2				
2. When you move a small toy up and down slowly in front of your baby's face (about 10 inches away), does your baby follow the toy with his eyes? 4-2				
3 up to 6 month babies start here:				
3. When you move a toy slowly from side to side in front of your baby's face (about 10 inches away), does your baby follow the toy with her eyes, sometimes turning her head? 3-2				
4. When you move around, does your baby follow you with his eyes? 2-2				
5. When you put a toy in her hand, does your baby look at it? 4-4				
6 up to 9 month babies start here:				
6. When you hold your baby in a sitting position, does she look at a toy (about the size of a cup or rattle) that you place on the table or floor in front of her? 5-2				

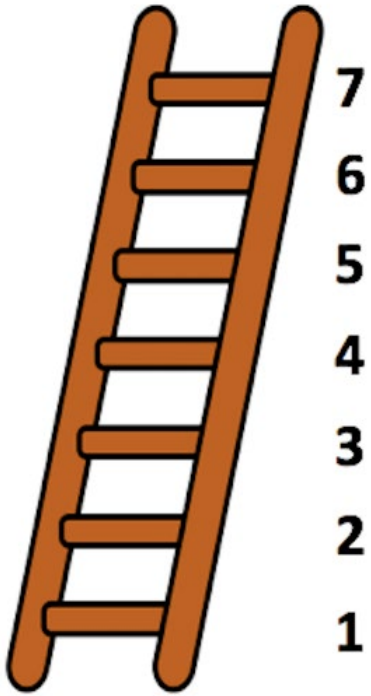
<u>Starting point</u>:
- Defined by child age

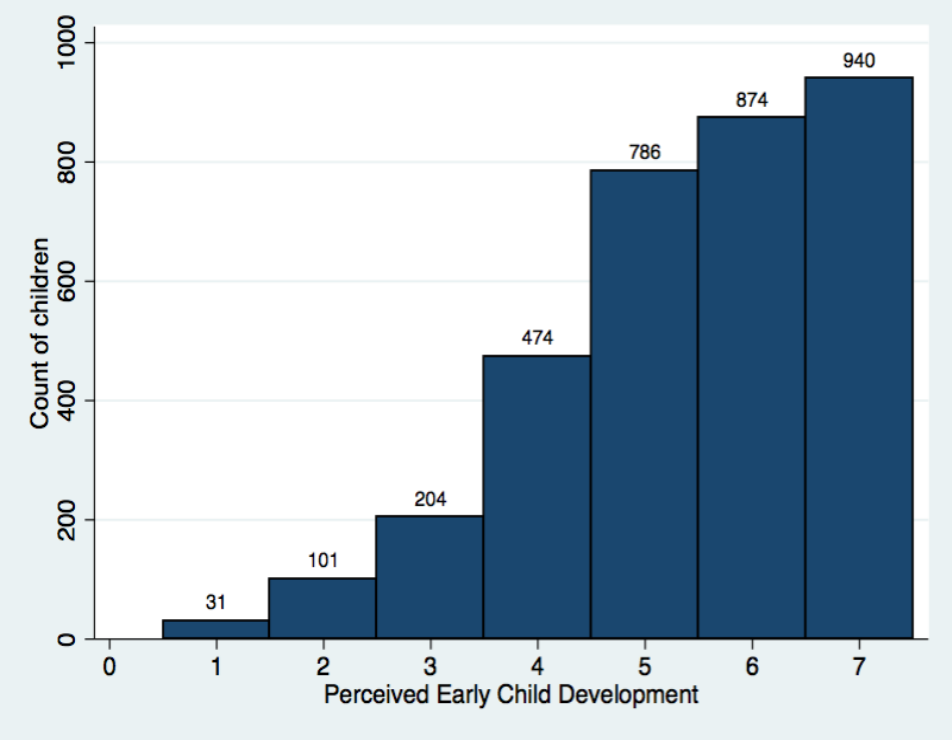
<u>Stopping point</u>:
- Three consecutive "Not Yet"



Chung, Fernald, Galasso et al. 2019

Maternally-perceived child development





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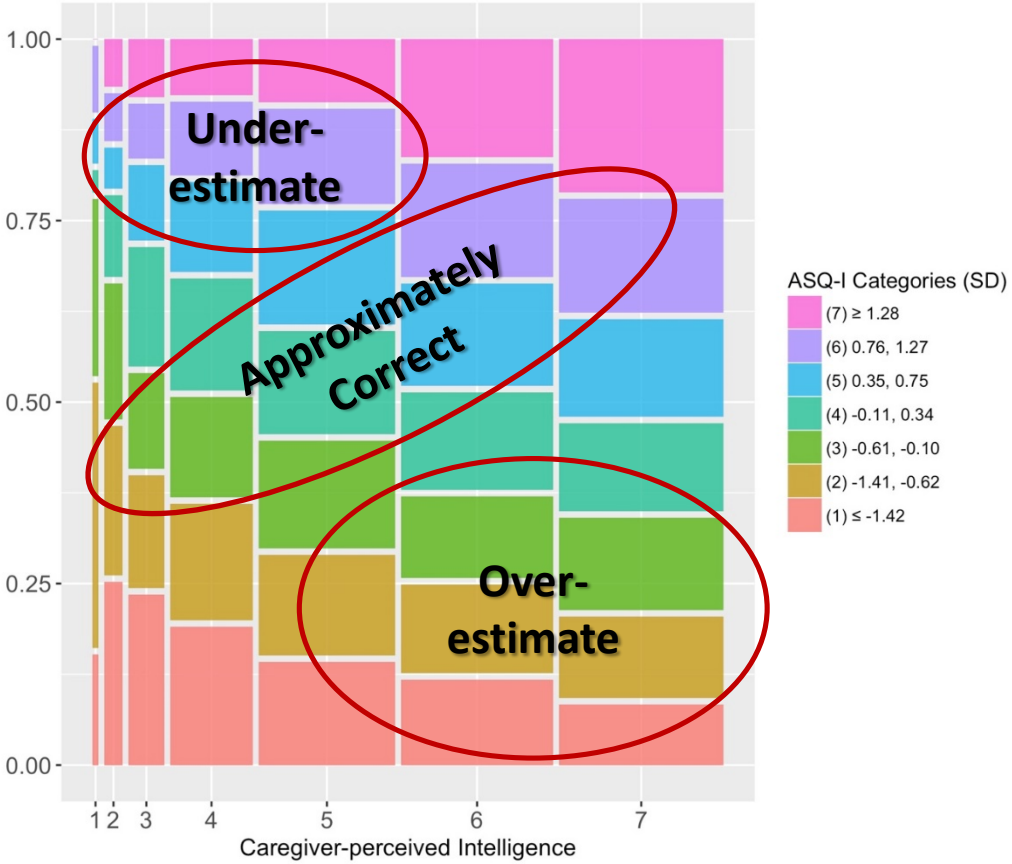
ASQ v. caregiver perception



<u>Maternal estimation of ECD</u>

- Underestimation: 275 (8.2%)
- Approximately correct: 1,655 (49.3%)
- Overestimation: 1,431 (42.6%)

Chung, Fernald, Galasso et al. 2019

Outcome & Model

- **n=3361** children from rural Malagasy households
- **Maternal estimation of ECD**: took the difference between maternally perceived and objective ECD (range: -5 to 6)
  - Underestimation: difference ≤ -2
  - Approximately correct: difference between –1 to 1
  - Overestimation: difference ≥ 2
- Multinomial logit models included child, maternal, and household factors, controlled for treatment arm and region, and corrected for clustering at the village level

Sample characteristics

	Mean ± SD or Frequency (%)
Child Characteristics	
Age (months)	29.38 ± 5.15
Height-for-age z-score	-2.34 ± 1.05
Weight-for-age z-score	-1.56 ± 0.93
Stunted	2,130 (63.37)
Wasted	137 (4.08)
Maternal Characteristics	
Age (years)	28.57 ± 7.78
Education	
Did not attend school	841 (25.02)
Primary or less	1779 (52.93)
Secondary or higher	741 (22.05)
Household Characteristics	
Household size	6.52 ± 2.67

Chung, Fernald, Galasso et al. 2019

Findings

- Maternal perceptions of ECD were not consistent with an objective measure of ECD, with 8% of caregivers underestimating and almost 50% over-estimating their children's development.
- More accuracy at estimating children's developmental abilities was associated with children having better nutritional status (HAZ and WAZ), a greater belief of influence on child intelligence, and those with higher education and greater wealth were.
- Mothers who were more likely to under-estimate their children's abilities were more likely to be depressed

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Conclusions & Questions

- Maternal perceptions of child development in this Malagasy population do not align with a more objective measure.
  - Are mothers who over- or under-estimate their children's development less willing to participate in parenting programs and/or less likely to change their behavior?
- Weight or height may be a proxy for healthy development and thus parents may be missing cues relating to cognitive or language development.
  - Are there cues that parents can use to help understand if their children are "on-track" for child development?
- How can programs in low-income settings incorporate maternal perceptions based on the context in order to optimize messages and behavior range?
  - What are ethics involved in giving parents feedback about child development?

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Risks for children living in low-income countries

- Poor housing, dangerous neighborhoods
- Lack of sanitation, clean water
- Larger family size, household crowding
- Less nutritious foods, malnutrition
- Exposure to infectious diseases, toxic metals, malaria
- Lack of access to schools and health care centers
- **High levels of maternal depression**

Black, Walker, Fernald et al. *Lancet* (2018)
Engle, Fernald, Alderman et al., *Lancet* (2011)
Grantham-McGregor et al. *Lancet* (2007)
Photo: Tricia Kariger

What is depression and how do we measure it?

Major depressive disorder (or “clinical depression”)

- At least 5 symptoms for 2 weeks (e.g. depressed mood, anhedonia, reduced energy, sleep disturbance, diminished ability to think or concentrate)
- Diagnosis based on examination of mental status using diagnostic guide (e.g. DSM: Diagnostic and Statistical Manual of Mental Disorders).

Depressive symptom scale (e.g. CES-D, Edinburgh Scale, Beck)

- Questions about categories as above
- Scored as continuous measure, or as percent of population above/below cut-off

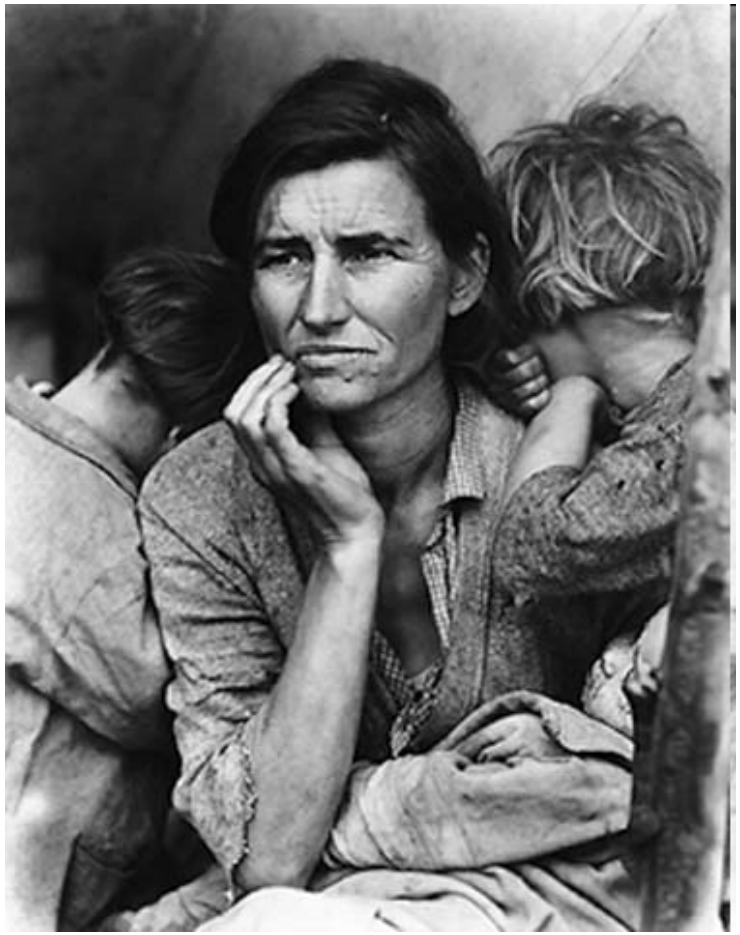
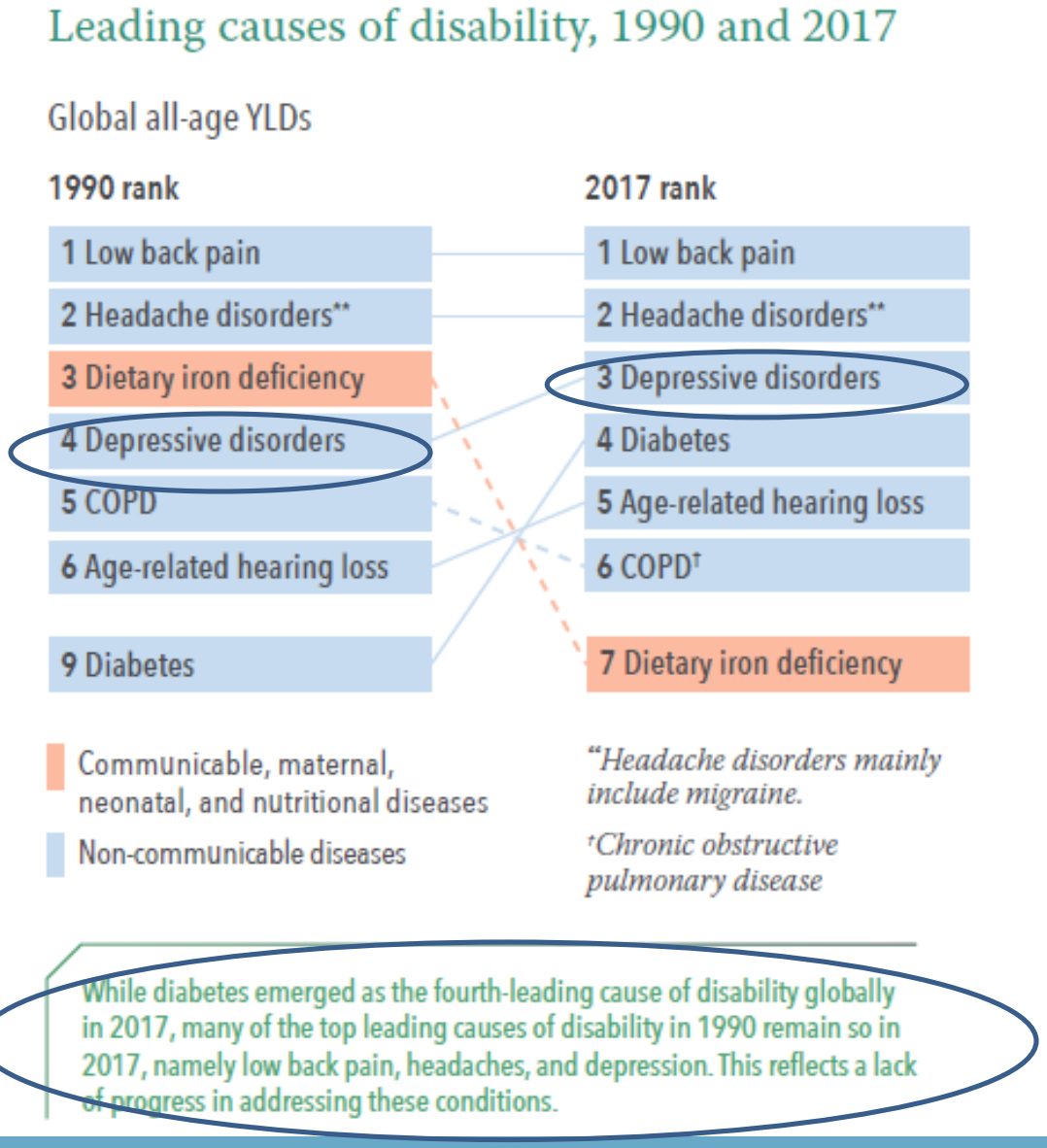


Photo: Migrant Mother (Dorthea Lange), 1936

Measurement issues

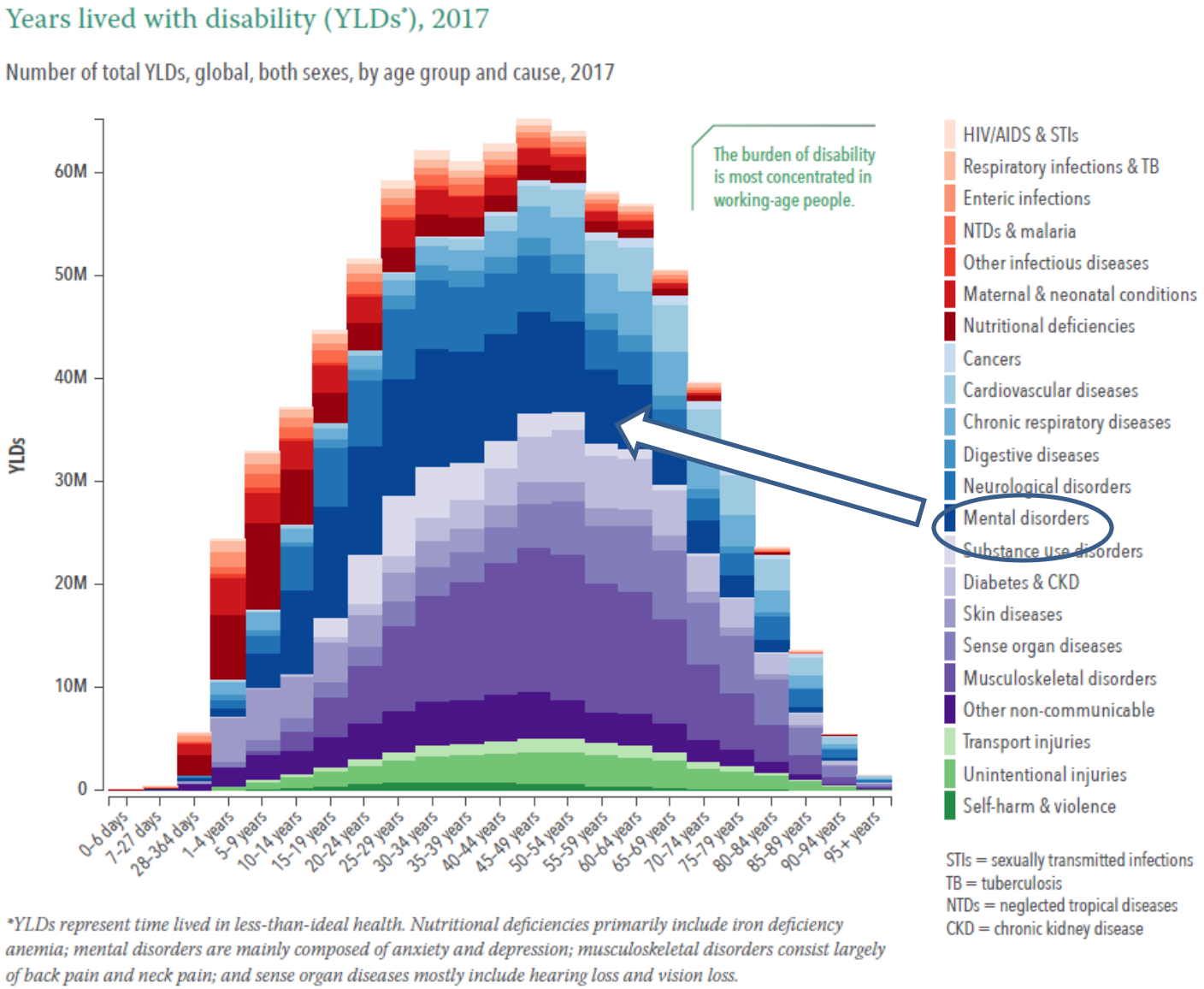
- Differences in screening methods
- Lack of formal validation of methods in a particular country or language against a gold standard (to establish appropriate cutoff scores for detecting symptoms)
- Cultural influences (e.g. somatic symptoms)

Leading causes of disability, 1990 & 2017



Global Burden of Disease study, 2017

Global burden of disease: depression



YLDs represent time lived in less-than-ideal health. Nutritional deficiencies primarily include iron deficiency anemia; mental disorders are mainly composed of anxiety and depression; musculoskeletal disorders consist largely of back pain and neck pain; and sense organ diseases mostly include hearing loss and vision loss.

Global Burden of Disease study, 2017

Lifecycle of risk factors for mental disorders

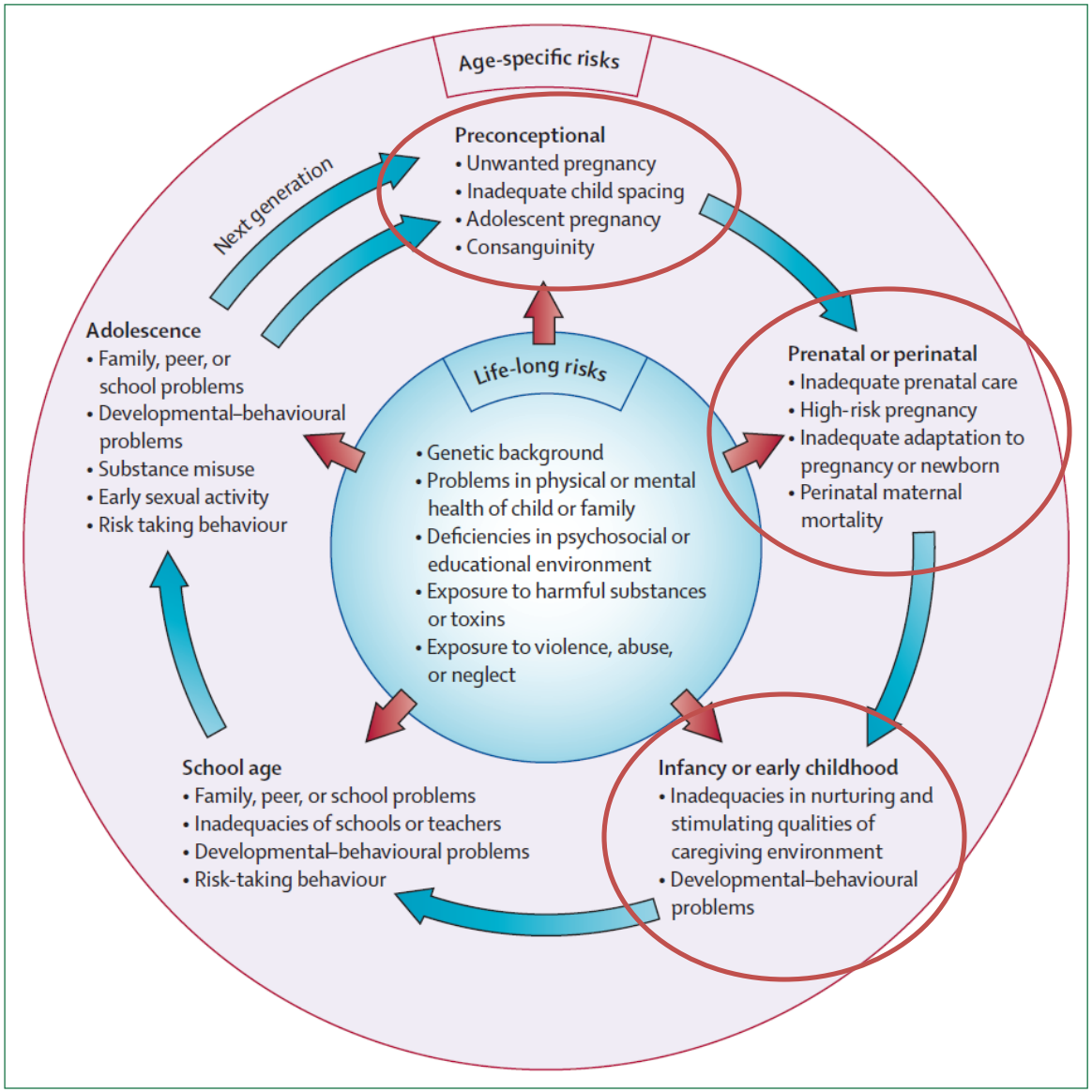


Figure 1: The lifecycle approach to risk factors for mental disorders

Kieling et al. 2009

Depression in women

- Depression among women (on average, 2x prevalence of men) (Herba et al. 2016)
- United States
  - 8-16% major depressive disorder in representative samples of non-pregnant women 18-50 years old (Kessler et al., 2003 and Vesga-Lopez et al. 2008)
  - 29% among low-income women (Farr et al. 2010)
- Low- and middle-income countries
  - Pooled prevalence estimate: 25.3% (95% CI, 21.4-29.6) Antepartum depression, 51 studies, 20 LMICs, n= 48,904
  - Pooled prevalence estimate: 19% (95% CI 15.5-23.0) Postpartum depression, 53 studies, 23 LMICs, n= 38,142 participants. (Gelaye et al. 2016)

Why is risk for depression exacerbated in LMICs?

- Low maternal education, low socio-economic status, lack of social support, history of abuse and mental illness (Gelaye et al. 2016)
- War, disasters, food insecurity, shortage of health-care services, high prevalence of TB, malaria, HIV, STDs, etc. (Herba et al. 2016)
- Nutrient deficiencies (e.g. folate, vitamin B-12, calcium, iron, selenium, zinc, and n-3 fatty acids) (Leung & Kaplan, 2009)
- Intimate partner violence (IPV) prevalence is 10%-52%, & includes psychological abuse (9 country review, WHO, 2013)
- Culture-specific factors (e.g. sex bias – increase risk for moms of girls (Mithra, 2016)

Maternal depression & child outcomes

Figure: Model of mechanisms linking maternal depression and child mental health outcome: a focus on low-income and middle-income countries
Mechanisms underlying associations between maternal depression and child mental health outcomes are likely to be similar in high-income countries, and in low-income and middle-income countries. However, the context in which maternal depression occurs is likely to be different, with risk factors increased in low-income and middle-income countries. We expect such contextual risk factors might have both additive and interactive effects. Some risk factors could also be considered as both biological and psychosocial (eg, illness could have a biological and psychosocial effect on wellbeing). BDNF=brain derived neurotrophic factor. *For example, iodine or iron deficiency. †Include HIV, tuberculosis, malaria. ‡Includes war, natural disasters, and political and interpersonal violence. §Includes food insecurity and unmet needs. ¶Includes views of mental illness, family structure, gender roles, and maternal education.

Herba et al. *Lancet Psychiatry*, 2016

Consequences of maternal depression

- Increased risk of having a child perceived as having a difficult temperament, behavior problems, child depressive symptoms, low academic achievement (Systematic review: Wachs, Black & Engle, 2009)
- Lower cognitive function among children, poorer school performance, risk for mental disorders later in life (Systematic review: Herba et al. 2016)
- Increased risk of having a child who is underweight or stunted (based on 17 studies from 11 countries) (Meta-analysis: Surkan et al., 2011)

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Types of interventions that might affect maternal depression

- Cash transfer programs
- Flooring improvement
- Water and sanitation programs
- Home visiting to promote child development
- Group-based delivery of cognitive stimulation, and child health interventions

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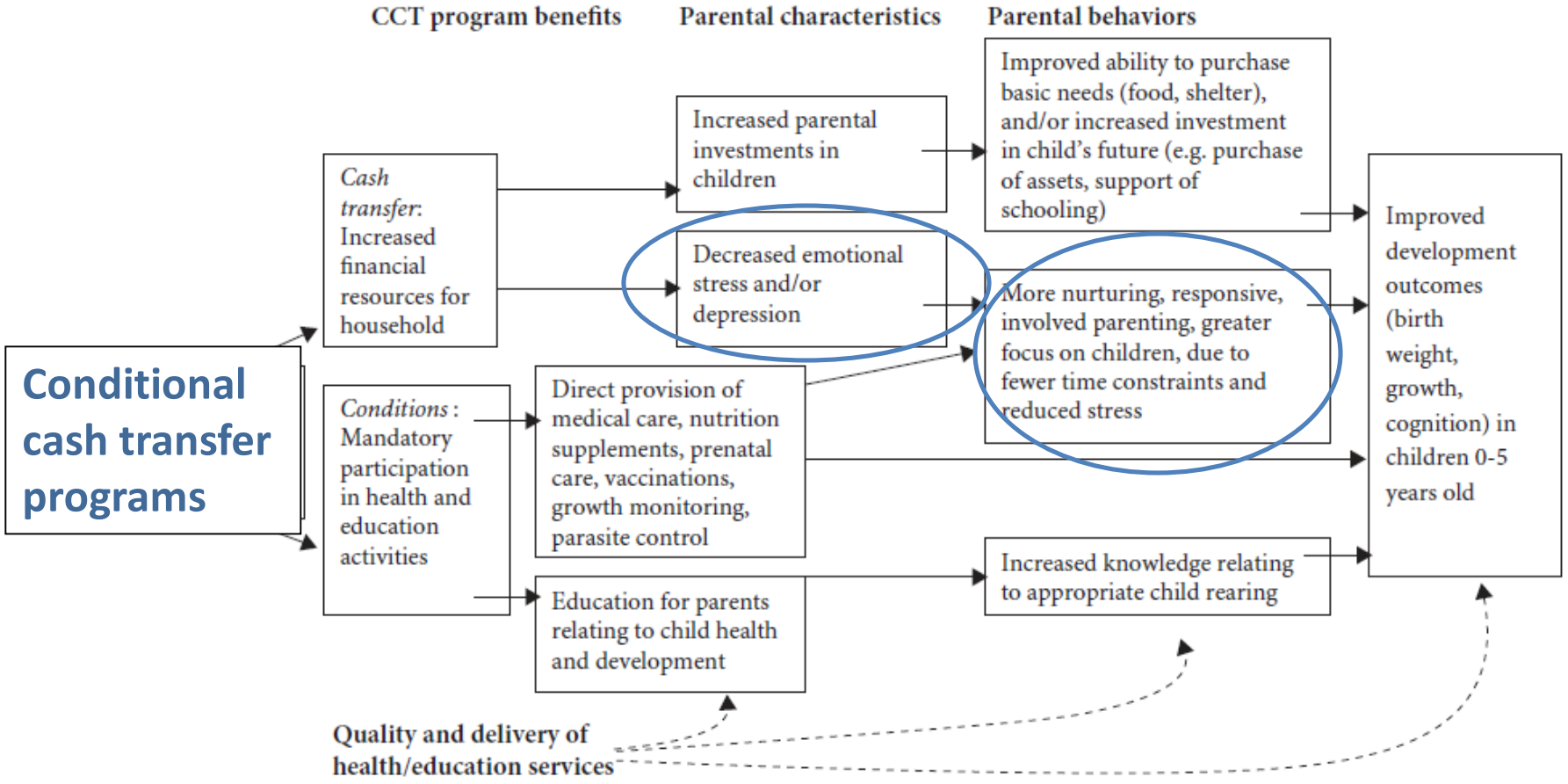


Fig. 32.1 Theoretical framework linking CCT programs with improved child development outcomes. Parental behaviors

deWalque, Fernald, Hidrobo & Gertler, 2017

Mexico's CCT and maternal depression

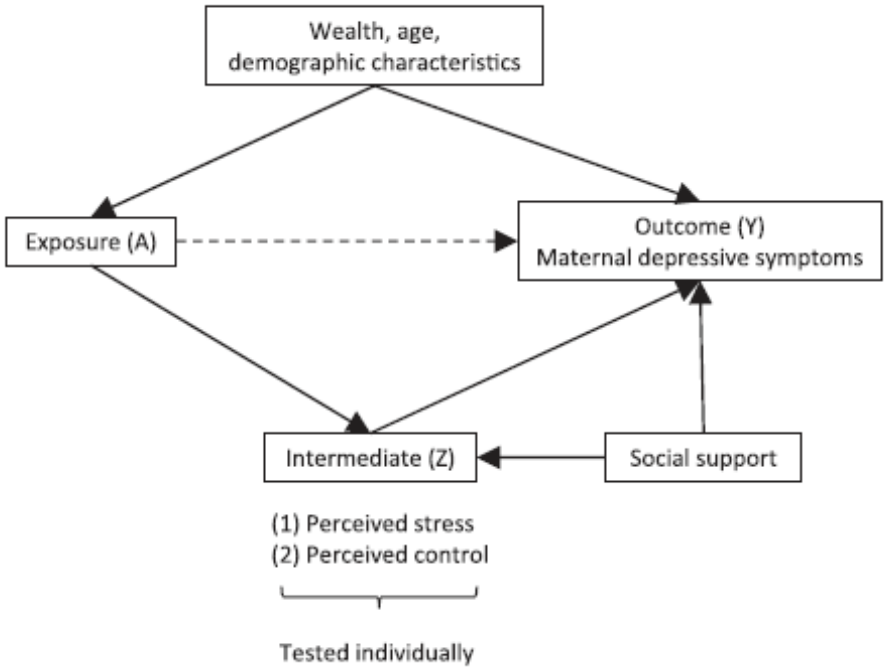
Table 2 Treatment effect on depressive symptoms, unadjusted and adjusted for other covariates

CES-D Scores Continuous (range)	Control mean (SD)	Treatment mean (SD)	Adjusted[a] Effect (β)[b]	Adjusted[a] (95% CI)[d]
Full depression scale (0–60)	18.7 (10.2)	16.9 (9.8)	−1.71	(−2.46 to −0.96)***
Depression subscales				
Depressed affect/mood (0–15)	4.7 (4.0)	4.1 (3.7)	−0.59	(−0.87 to −0.31)***
Lack of positive affect (0–12)	4.8 (2.9)	4.7 (3.0)	−0.10	(−0.32 to 0.12)
Somatic symptoms (0–15)	4.7 (3.2)	4.0 (3.0)	−0.59	(−0.84 to −0.34)***
Interpersonal relations (0–6)	1.4 (1.6)	1.3 (1.6)	−0.17	(−0.28 to −0.06)**
Dichotomous with cut-off	***n* (%)**	***n* (%)**	**RR[c]**	
Depression score ⩾ 26	347 (26.8)	987 (19.5)	0.74	(0.67 to 0.83)***
Depression score ⩾ 16	740 (57.2)	2552 (50.5)	0.90	(0.84 to 0.95)***

[a]Adjusted for the following covariates: maternal age, education and head of household status and household ethnicity, crowding, dependency ratio, wealth index, head of household occupation indices and state.
[b]Adjusted average treatment effect sizes are OLS regression coefficients (β) for the continuous scores.
[c]Adjusted relative risk estimates are Poisson regression coefficients for a dichotomous outcome based on a cut-off score.
[d]Standard errors for the estimates were adjusted for clustering at the community level.
*$P < 0.05$; **$P < 0.01$; ***$P < 0.001$.

Ozer, Fernald, Weber, Flynn & VanderWeele, *International Journal of Epidemiology.* 2011

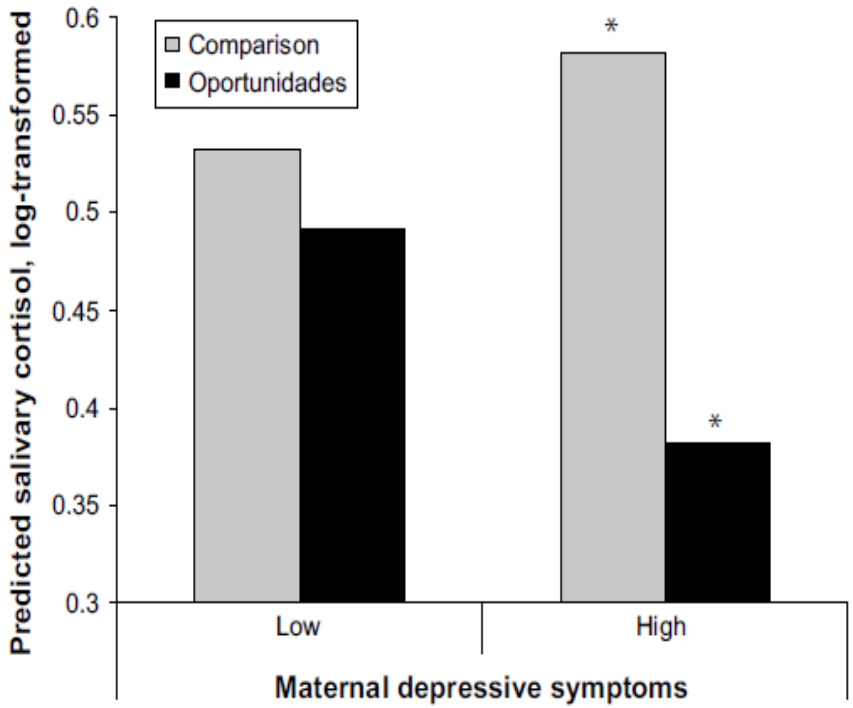
Mexico's CCT, perceived stress & control



- Perceived stress was significant mediator of treatment effect on depressive symptoms (accounted for 34% of treatment effect)
- Perceived control was also a significant mediator (accounted for 12% of treatment effect)

Ozer, Fernald, Weber, Flynn & VanderWeele, *International Journal of Epidemiology.* 2011

Mexico: effect of CCT on child cortisol



- Program effect on cortisol significant only in children of depressed mothers
  - Non-depressed mothers can act as buffer to children, protecting from poverty; or
  - Children of depressed mothers are more sensitive to context

Fernald & Gunnar, *Social Science and Medicine* (2009)

Dom Rep: Effect of living wage on depression

- Dominican Republic: Increase in wages in Alta Gracia factory of 338% percent, to achieve living wage
- Longitudinal results (1 year later) Compared with women who were in a matched factory, women in the Alta Gracia factory had:
  - 5 points (out of 60) lower on the scale for depressive symptoms (results significant while controlling for all baseline variables).
  - Increased expenditures on groceries, clothes, home repair, school fees

Fernald, Rehkopf, et al. *2018*
Photo source: Alta Gracia website

Effect of living wage on mothers

"With a *salario digno [living wage]*, I don't lose sleep anymore, as a mother, wondering how I will make ends meet. I would say Alta Gracia is the salvation for a lot of mothers."

"To live dignified means to have a bathroom inside; it means being able to eat three times a day; it means being able to get an education and being able to have your children get education. A not dignified life is not having a future."

Fernald, Rehkopf, et al. *2018*
Photo source: Alta Gracia website

Types of interventions that might affect maternal depression

- Cash transfer programs
- **Flooring improvement**
- Water and sanitation programs
- Home visiting to promote child development
- Group-based delivery of cognitive stimulation, and child health interventions

Mexico: effect of *piso firme* on mental health

- Large-scale Mexican program to replace dirt floors with cement ones
- Significant reductions in maternal depression (2 points on CES-D) and perceived stress (1.8 points on perceived stress scale)
- Significant effects on growth and child development scores (e.g. 4-5 more words spoken in toddlers)

Cattaneo, Galiani, Gertler, Martinez & Titiunik. *AEJ: Economic Policy* (2009). Photo source: Sedesol, Morelos

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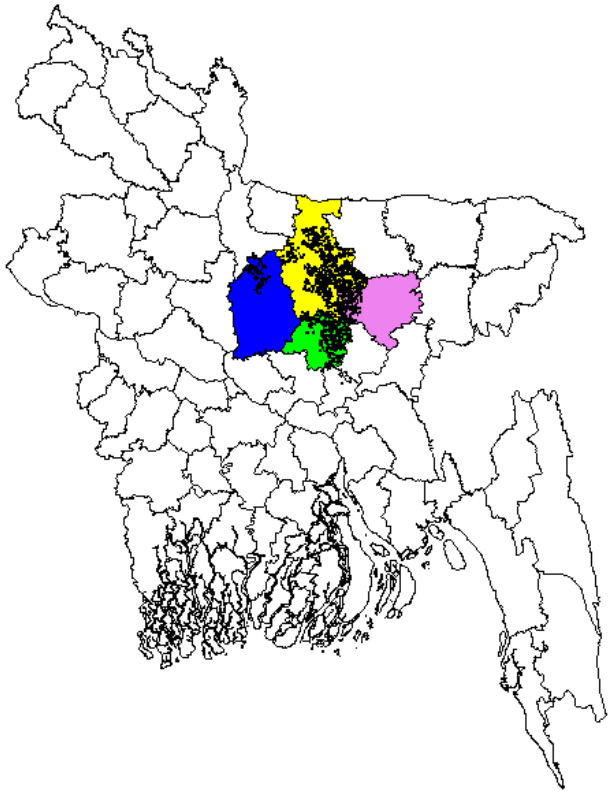
WASH-B, Bangladesh, participant enrollment

- Canvassed study area seeking women in their 1st or 2nd trimester of pregnancy.
- Mapped the location of pregnant women
- Identified cluster of 8 pregnant women
  - who could be reached by a single health promoter on foot
  - Separated from nearest cluster by a 1 kilometer buffer zone
- After 8 clusters identified
  - Cluster ID numbers assigned
  - Off site statistician randomly assigned each cluster to one of 6 interventions; with 2 clusters assigned to control



Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*
Luby et al. *Lancet Global Health, 2017*

Interventions: Water quality

	Children
Water quality	630

Aquatabs (NaDCC) + Safe Storage

(www.aquatabs.com)

Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*
Luby et al. *Lancet Global Health, 2017*

Interventions: Sanitation

	Children
Water quality	630
Sanitation	630

Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*
Luby et al. *Lancet Global Health, 2017*

Interventions: Handwashing

	Children
Water quality	630
Sanitation	630
Hand washing	630

Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*
Luby et al. *Lancet Global Health, 2017*

Interventions: Nutrition

Nutritional Promotion

- Exclusive breastfeeding through 6 months
- Continued breastfeeding through 24 months
- Diverse nutrient dense weaning foods

+

Daily lipid based nutrient supplement

- 6 – 24 months
- 10-gm sachet twice daily
  - 118 Kcal
  - 9.6 gm fat
  - 2.6 gm protein
  - ≥100% RDA of 12 vitamins
  - 9 minerals

	Children
Water quality	630
Sanitation	630
Hand washing	630
Water + Sanitation + Handwashing	630
Nutrition	630

Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*
Luby et al. *Lancet Global Health, 2017*

Interventions: Summary

	Children
Water quality	630
Sanitation	630
Hand washing	630
Water + Sanitation + Handwashing	630
Nutrition	630
Water + Sanitation + Handwashing + Nutrition	630
Control	1260
Total	5040

Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*
Luby et al. *Lancet Global Health, 2017*

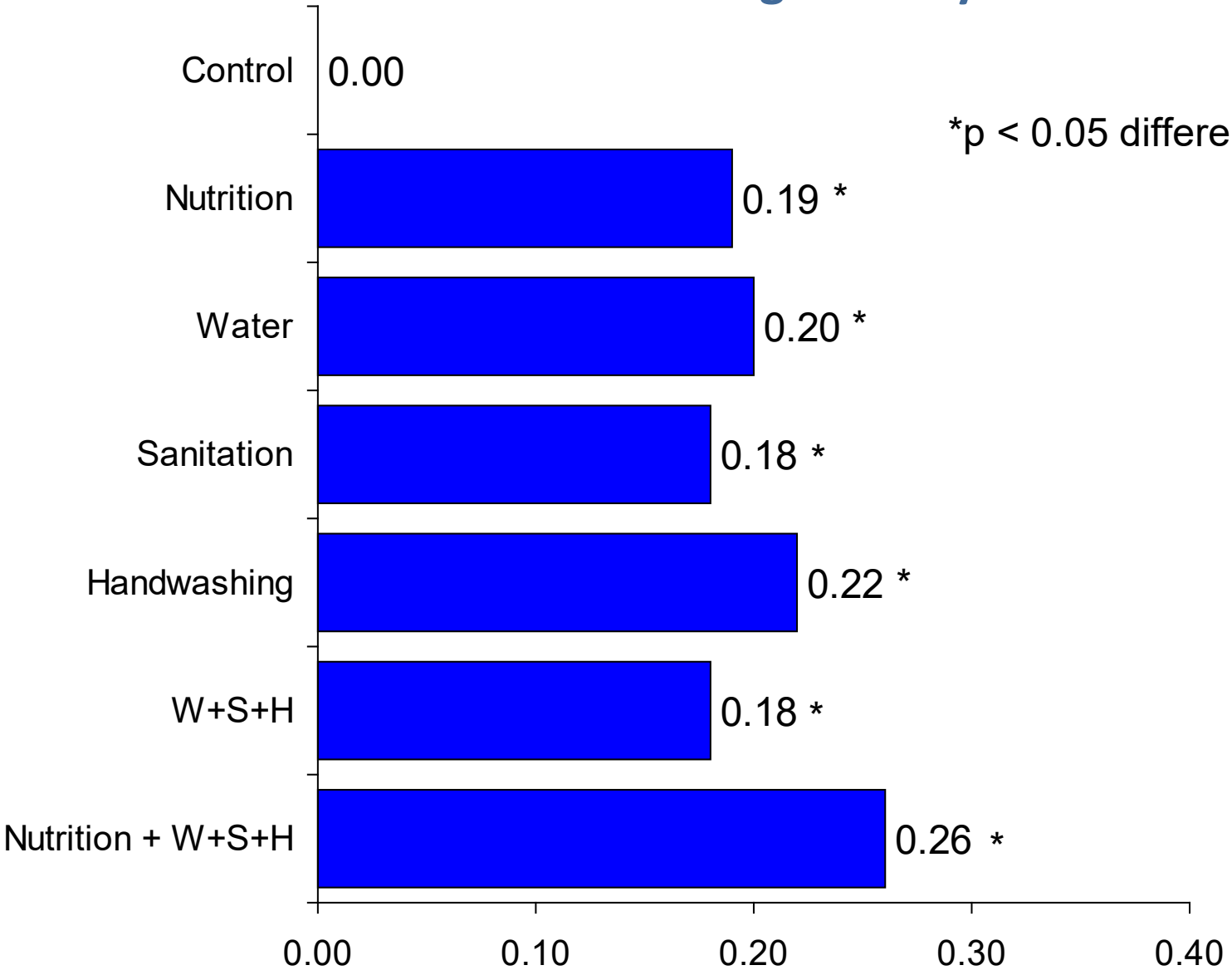
MacArthur Bates Communicative Development Inventories
Bangladesh adapted short form

- Structured parental interview
- List of words
  - Does the child:
    - Understand?
    - Understand and say?
  - # of words summed
- Valid, reliable, normed, translated
- Adjusted difference for:
  - Child sex, child age, mother age, parents education, number of household members, number of household rooms, household roof, floor, wall materials, availability of electricity, type of fuel for cooking, household asset

	UNDERSTANDS	UNDERSTANDS AND SAYS
choo choo	○	○
meow	○	○
ouch	○	○
uh oh	○	○
bird	○	○
dog	○	○
duck	○	○
kitty	○	○

Communicative Development Inventory

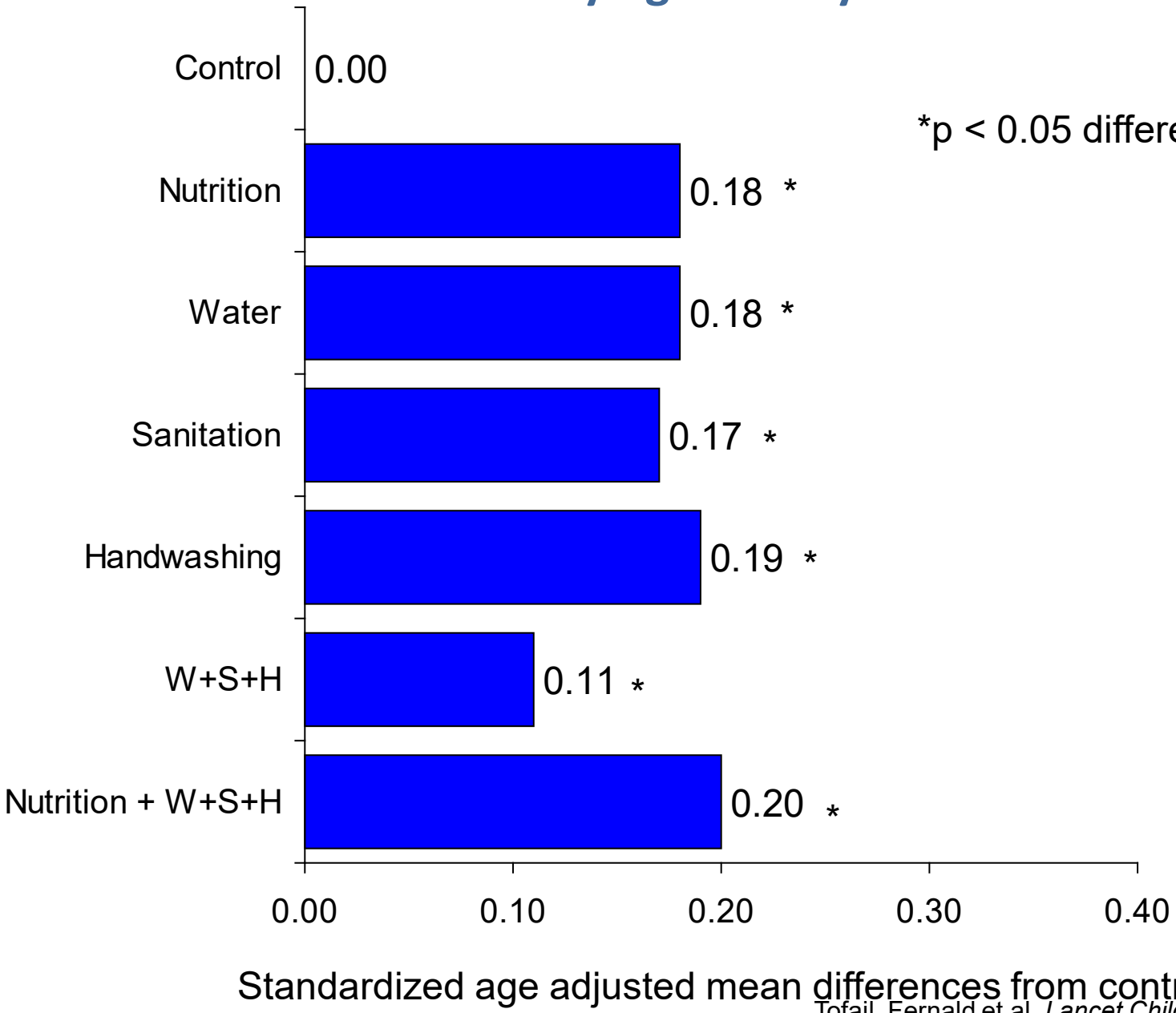
Understanding after 2 years



Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*

Communicative Development Inventory

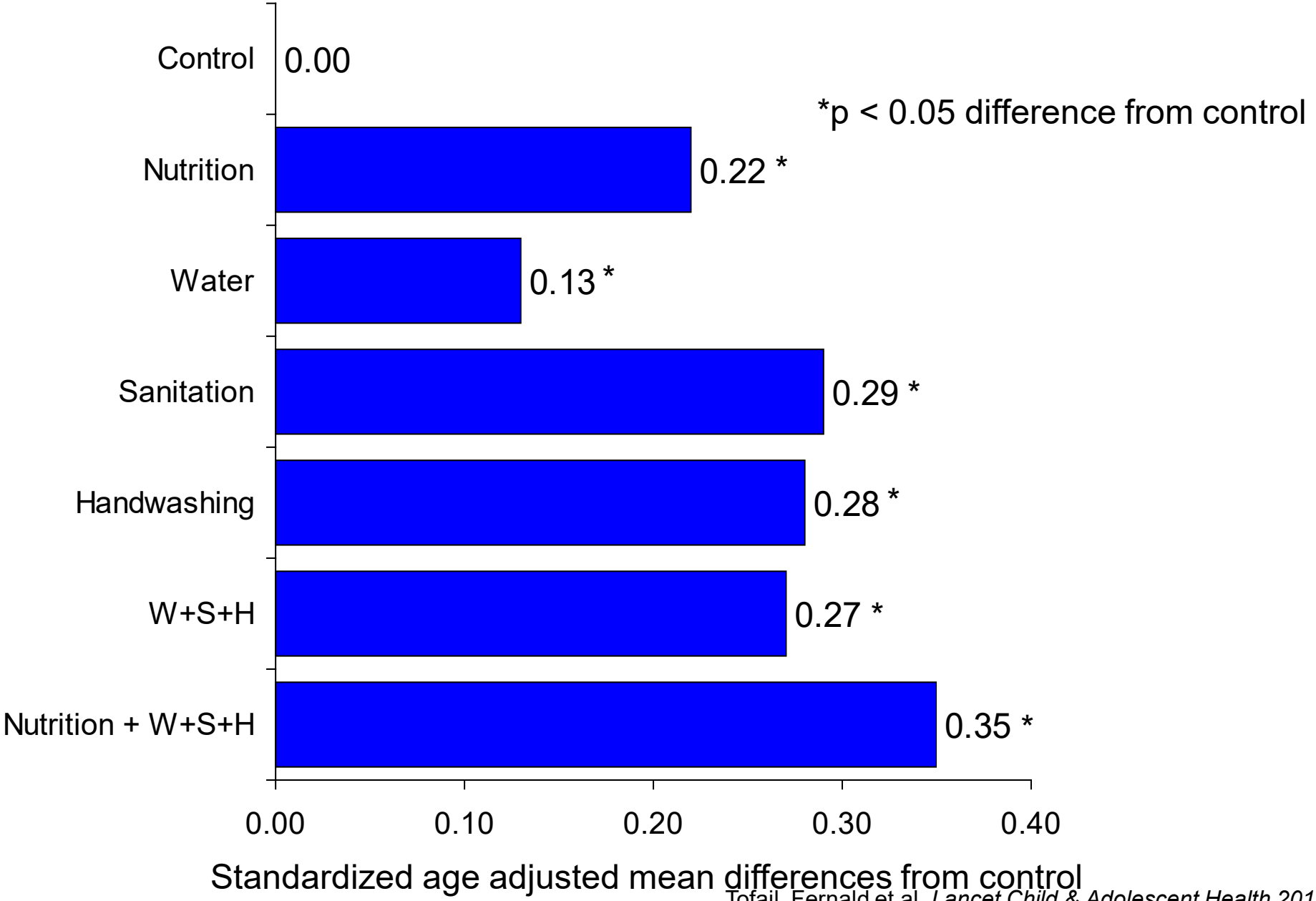
Saying after 2 years



Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*

Personal social skills after 2 years

(Extended Ages and States Questionnaire)



Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*

WASH-B effects on maternal depression

		Mean (SD)	Mean Difference vs. Control (CI)
Maternal depressive symptoms after 1 year			
Control	1172	0.00 (1.00)	Ref
Water	526	-0.19 (0.73)	-0.19 (-0.28, -0.09)
Sanitation	521	-0.20 (0.69)	-0.20 (-0.28, -0.13)
Handwashing	509	-0.22 (0.69)	-0.22 (-0.30, -0.13)
WSH	512	-0.17 (0.78)	-0.17 (-0.26, -0.08)
Nutrition	510	-0.31 (0.71)	-0.31 (-0.40, -0.22)
Nutrition+WSH	532	-0.27 (0.72)	-0.28 (-0.36, -0.19)
Maternal depressive symptoms after 2 year			
Control	1106	0.00 (1.00)	Ref
Water	515	-0.22 (0.73)	-0.23 (-0.33, -0.13)
Sanitation	506	-0.23 (0.74)	-0.23 (-0.32, -0.15)
Handwashing	484	-0.18 (0.77)	-0.19 (-0.28, -0.10)
WSH	512	-0.19 (0.78)	-0.19 (-0.30, -0.09)
Nutrition	501	-0.24 (0.78)	-0.24 (-0.34, -0.14)
Nutrition+WSH	508	-0.27 (0.78)	-0.29 (-0.38, -0.19)

Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*

WASH-B findings and interpretation

- ECD effects were modest (0.2-0.35) and not biologically distinguishable across arms.
- Effects on maternal depression also ~0.2-0.3, with similar effects across arms
- 4-6 home visits per month (much higher than number for standard HV programs)
- Less depressed mothers better able to care for children? Able to absorb messages from HV promotors? Is depression the key pathway by which WASH-B intervention affected outcomes?

Tofail, Fernald et al. *Lancet Child & Adolescent Health 2017*

Types of interventions that might affect maternal depression

- Cash transfer programs
- Flooring improvement
- Water and sanitation programs
- **Home visiting to promote child development**
- Group-based delivery of cognitive stimulation, and child health interventions

How would a HV program affect depression?

- Theoretical basis – HV programs have modest effects on cognitive development (*d* = 0.42; *n* = 22) and language development (*d* = 0.47; *n* = 9) (Aboud 2016)
- Target the parent and child, involves coaching, encouraging, and counseling caregivers to enhance parenting knowledge, beliefs, attitudes, and practices and foster positive parent-child interactions
- Hypothesized parenting mechanisms are rooted in idea that parenting knowledge ->improved home caregiving -> influence children's development

Goals of systematic review

- Studies focusing primarily on enhancing children's learning and play activities through promoting caregiver/child interaction
- Studies using RCTs
- Children <24 months
- Took place in LMIC
- Measured psychosocial or parenting-related outcomes after start of the intervention.

Jeong, Pitchik, Yousafzai, *Pediatrics,* 2018

Benefits for home caregiving environment

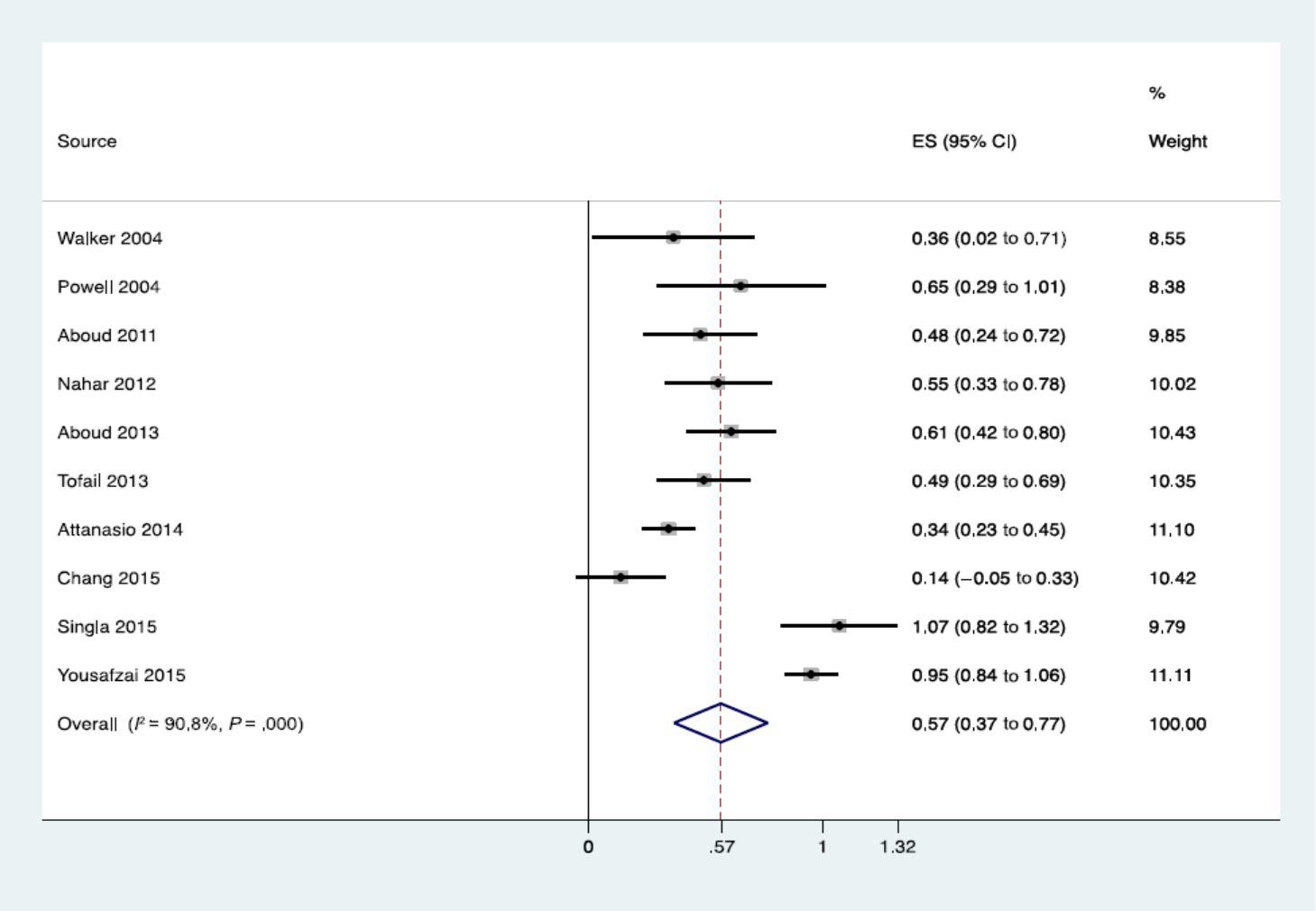


FIGURE 2

Forest plot for effect of stimulation interventions on the home caregiving environment. Weights are from random effects analysis.

Jeong, Pitchik, Yousafzai, *Pediatrics,* 2018

Benefits for mother-child interaction

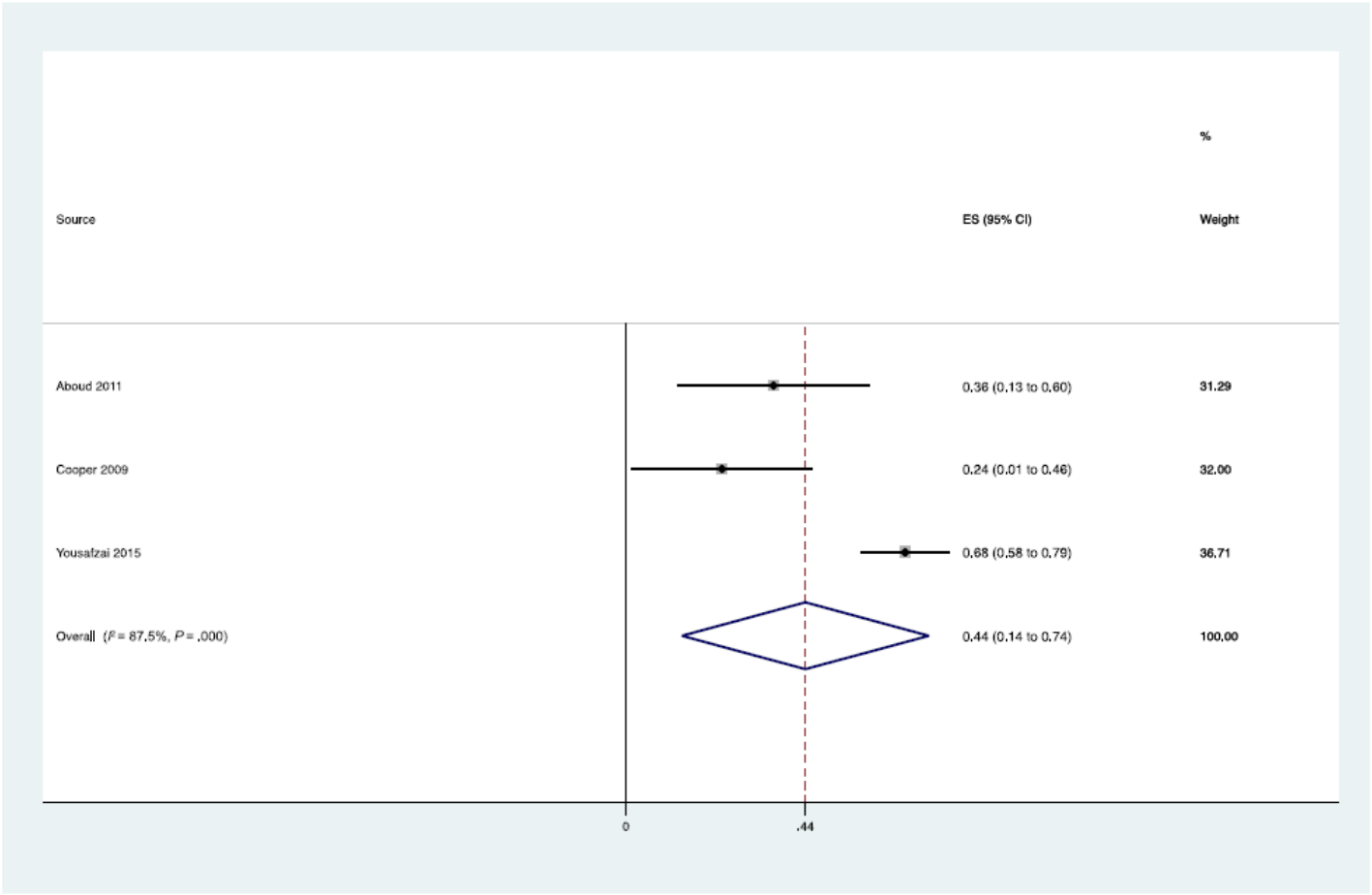


FIGURE 3
Forest plot for effect of stimulation interventions on mother-child interactions. Weights are from random effects analysis.

Jeong, Pitchik, Yousafzai, *Pediatrics,* 2018

Benefits for maternal knowledge

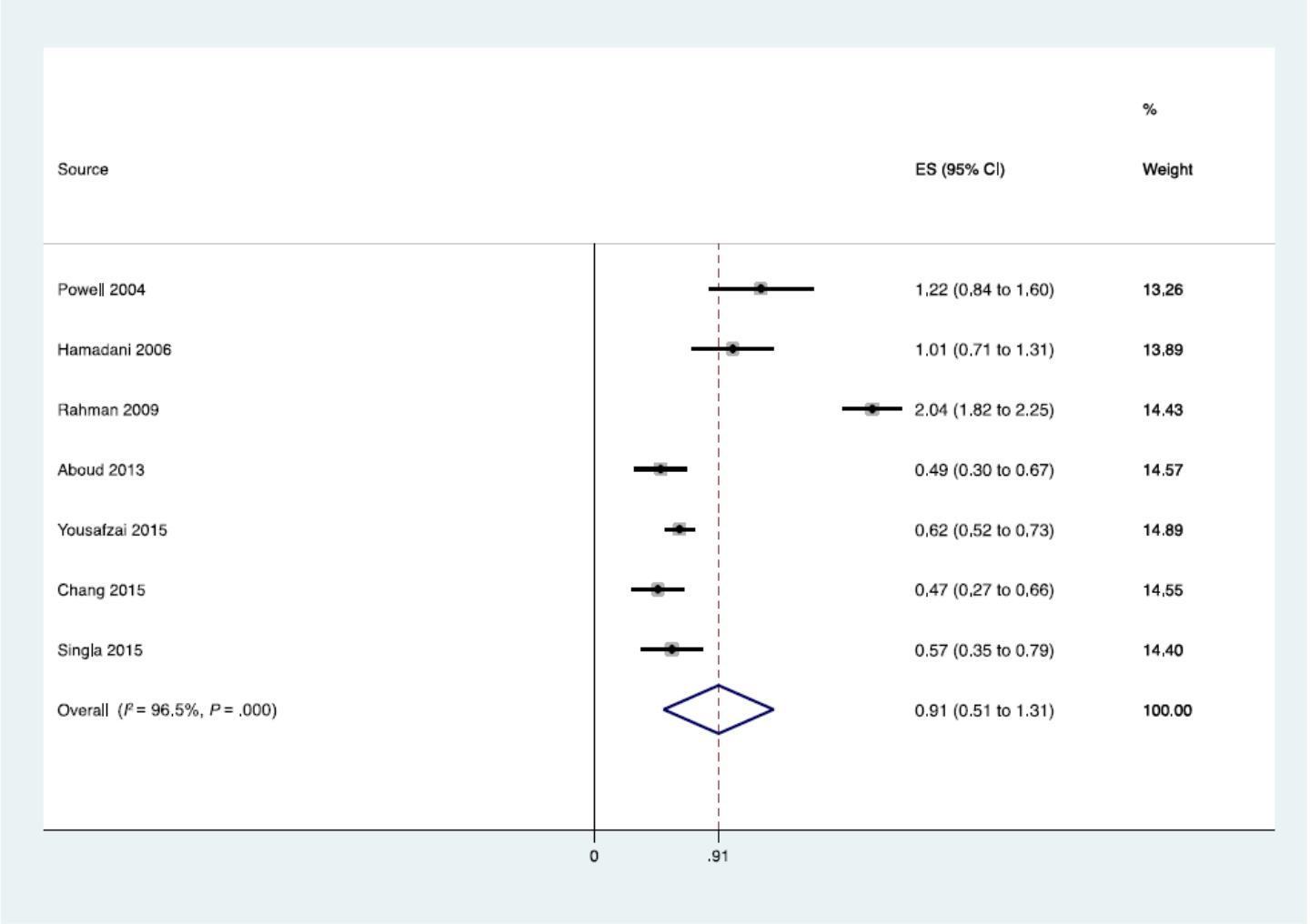


FIGURE 4
Forest plot for effect of stimulation interventions on maternal knowledge of ECD. Weights are from random effects analysis.

Jeong, Pitchik, Yousafzai, *Pediatrics,* 2018

No benefits for maternal depression

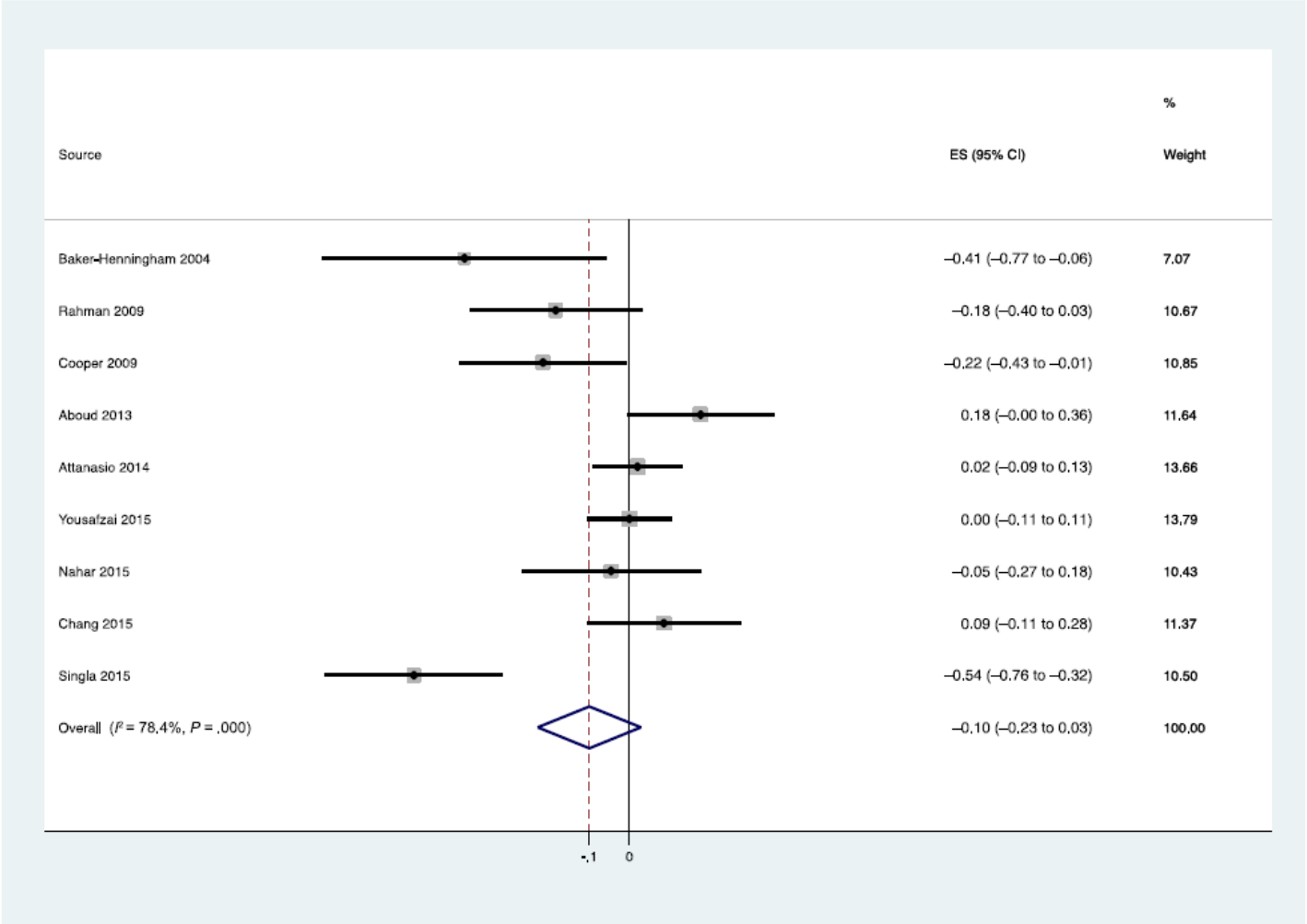


FIGURE 5

Forest plot for effect of stimulation interventions on maternal depressive symptoms. Weights are from random effects analysis.

Note: most studies not powered to detect maternal depression

Jeong, Pitchik, Yousafzai, *Pediatrics,* 2018

Types of interventions that might affect maternal depression

- Cash transfer programs
- Flooring intervention
- Water and sanitation programs
- Home visiting to promote child development
- **Group-based delivery of cognitive stimulation, and child health interventions**

RINEW: Integrated Intervention, Bangladesh

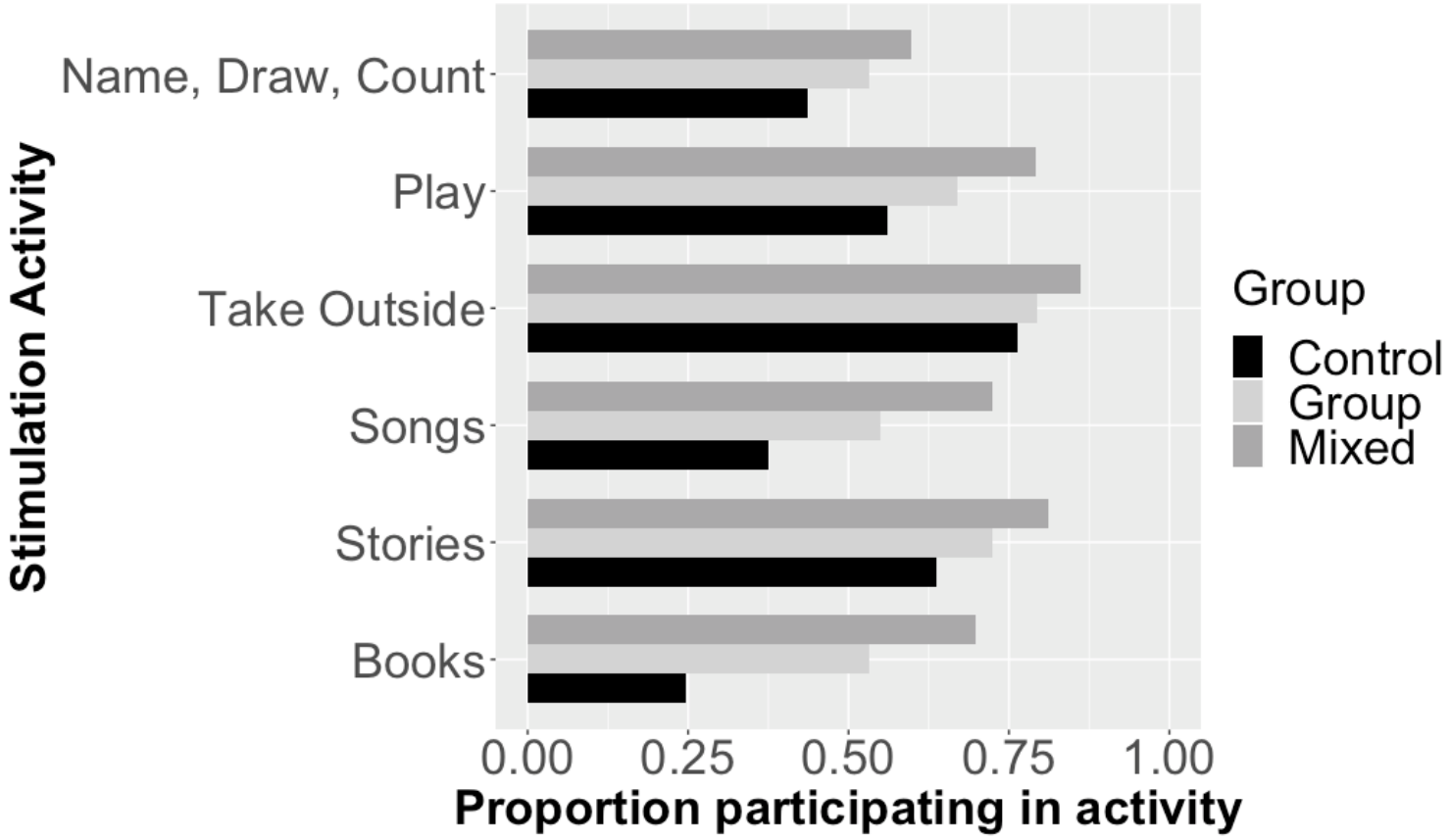
Research on **I**ntegrated **N**utrition, **E**arly Child Stimulation and **W**ASH

Traditional Responsive Stimulation Curriculum	+	Maternal and Child Nutrition	+	Water Sanitation Hygiene	+	Lead and Arsenic Consumption Prevention	+	Maternal Mental Health
• Age-specific activities with toys and picture books • Singing local rhymes • Conversing during daily activities		• Breastfeeding • Maternal and child dietary diversity • Complementary feeding • Responsive feeding		• Handwashing with soap • Free of human and animal feces • Safe water and food storage		• Encouraging well switching for arsenic contaminated wells • Teaching about sources of lead and how to avoid them		• Adapted Thinking Healthy Program

Pitchik, Tofail, …. & Fernald, *under review*

Benefits to child development of integrated, group-based intervention

Play activities in the home, by activity



Pitchik, Tofail, …. & Fernald, *under review*

Benefits to mental health of integrated, group-based intervention

CESD score	mean (SD)	Mean adjusted difference vs. control
Control n=282	15.0 (9.0)	--
Any Intervention n=294	13.59 (8.13)	-1.43 (-2.60 to -0.25)
Group n=144	13.1 (7.0)	-1.97 (-3.14, -0.81)
Combined n=150	13.99 (9.1)	-0.84 (-2.39, 0.70)

Pitchik, Tofail, …. & Fernald, *under review*

Conclusions

- 1 in 4 women in LMICs is depressed, either while pregnant or after pregnancy.
- Depression has serious consequences for the mother herself, and also for her children.
- Maternal perceptions of her children are a potential barrier for targeting interventions.
- Programs targeting children can benefit mothers too, and possibly reduce depressive symptoms, e.g. cash transfer programs, WASH, floors.
- Home visiting programs do not appear to have substantial benefits for mothers, but group-based programs have potential.

Next Steps and Future Questions

- Role of father and other adults (grandparents) in providing cognitive stimulation – how best to engage family members?
- Role of siblings – can/should older siblings play a role in cognitive stimulation for younger children?
- Time use – how can we avoid over-burdening women who are already busy – how to find the time for ECD? Can we avoid exacerbation of gender roles, and "feminization of responsibility and obligation."
- Partnering with center-based care to provide break for parents, and also supplies, education & support?
- How best to develop holistic interventions for families?
- How best can women get the support they need for optimal mental health?



Thank you!
Questions?

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