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BACKGROUND

The global prevalence of undernourishment is no longer declining, with highest prevalences seen in low- and middleincome countries (LMICs)². Physical and economic access to food is crucial to ensure food security, and communitylevel interventions could be important to increase access to food in LMICs.

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OBJECTIVES

To determine the effects of community-level interventions that aim to improve access to nutritious food in LMICs, for both the whole community and for disadvantaged or atrisk individuals or groups within a community.

SEARCH METHODS

- Searched 16 electronic databases and trial registries
- Date of last search: February 2020
- No language or publication status limits

ELIGIBILITY CRITERIA

- Study designs: Individually and cluter randomised controlled trials (RCTs), and prospective controlled studies (PCS).
- Participants: Adults and children, living in LMICs, exposed to community-level interventions aiming to improve food access. Studies that included participants with specific diseases or conditions (e.g. severely malnourished children) were excluded.
- Interventions: Eligible interventions were broadly categorised into those that:
- improved buying power (e.g. create income-generation opportunities, cash transfer schemes); - addressed food prices (e.g. vouchers and subsidies);
- addressed infrastructure and transport that affected physical access to food outlets; and
- addressed the social environment and provided social support (e.g. social support from family, neighbours or government).

DATA COLLECTION AND ANALYSIS

Two authors independently screened titles and abstracts, and full texts of potentially eligible records, and extracted data. However, outcome data were extracted by one author and checked by a biostatistician.

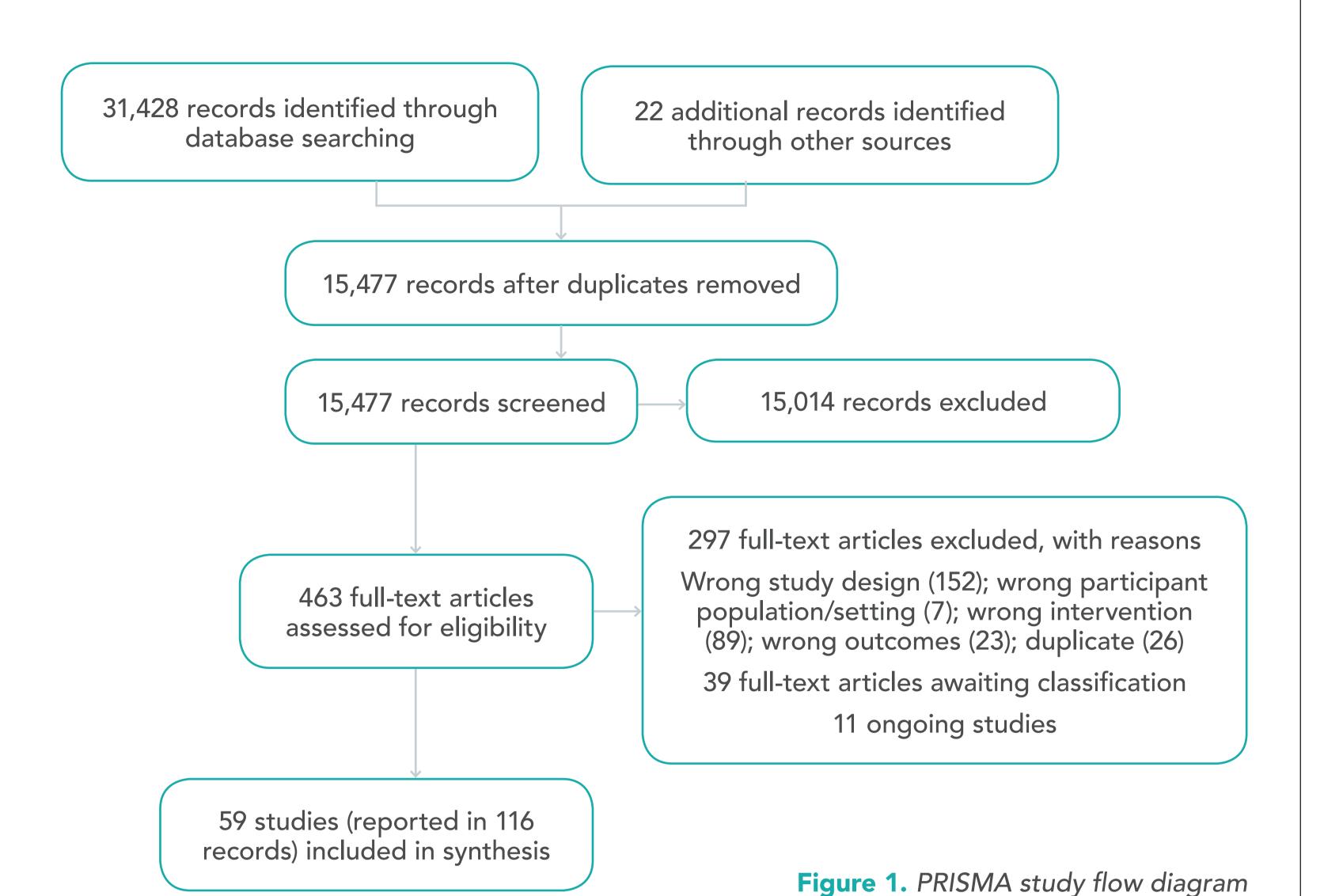
We assessed risk of bias for all included studies using the Effective Practice and Organization of Care (EPOC) risk of bias tool for studies with a separate control group.

We conducted random-effects meta-analyses if there were a minimum of two studies in the same intervention category reporting the same outcome measure and these were sufficiently homogeneous. Where we were unable to conduct meta-analyses, we synthesised using vote counting based on effect direction.

INTERVENTIONS THAT IMPROVED BUYING POWER:

SEARCH RESULTS

We included 59 studies, with 214 to 169,485 participants, and 300 to 124, 644 households, mostly from Africa and Asia, and some in Latin America.



EFFECTS OF INTERVENTIONS

1 Unconditional cash transfers (UCTs) (16 cRCTs, two RCTs, three PCSs):

- Improve food security and make little or no difference to cognitive function and development (high certainty evidence)
- May increase dietary diversity and may reduce stunting (low-certainty evidence)
- The evidence was very uncertain about the effects of UCTs on the proportion of household expenditure on food, and on wasting (very low-certainty evidence)
- Adverse outcomes: evidence from one trial indicates that UCTs reduce the proportion of infants who are overweight.

Outcome Favors control Prevalence of undernourishment		Unclear effect; potentially favors control					Unclear effect; potentially favors intervention				Favors intervention					1.	Ast	Asfa Baird Daid Fern Haus	
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Asfaw 2014 HH expenditure; DDS; HAZ/WHZ<-2 Baird 2013 Cognitive Test Score Daidone 2014 HFIAS; HDDS; ECD index Fernald 2011 Language Haushofer 2013 Miller 2011 HH expenditure; meals/day; FCDS Merttens 2013 HH expenditure; DDS; HAZ/WHZ<-2

Pellerano 2014 severe food deprivation; FCS Skoufias 2013 Tonguet Papucci 2015 MDD; HAZ/WHZ<-2 Brugh 2018 HH expenditure; meals/day;

Outcome

Hjelm 2017 HH expenditure; HFIAS Ahmed 2019 North FCS

Ahmed 2019 South FCS Fenn 2015 HAZ < -2Breisinger 2018 HHDDS

Renzaho 2017 HAZ/WHZ<-2 Study design

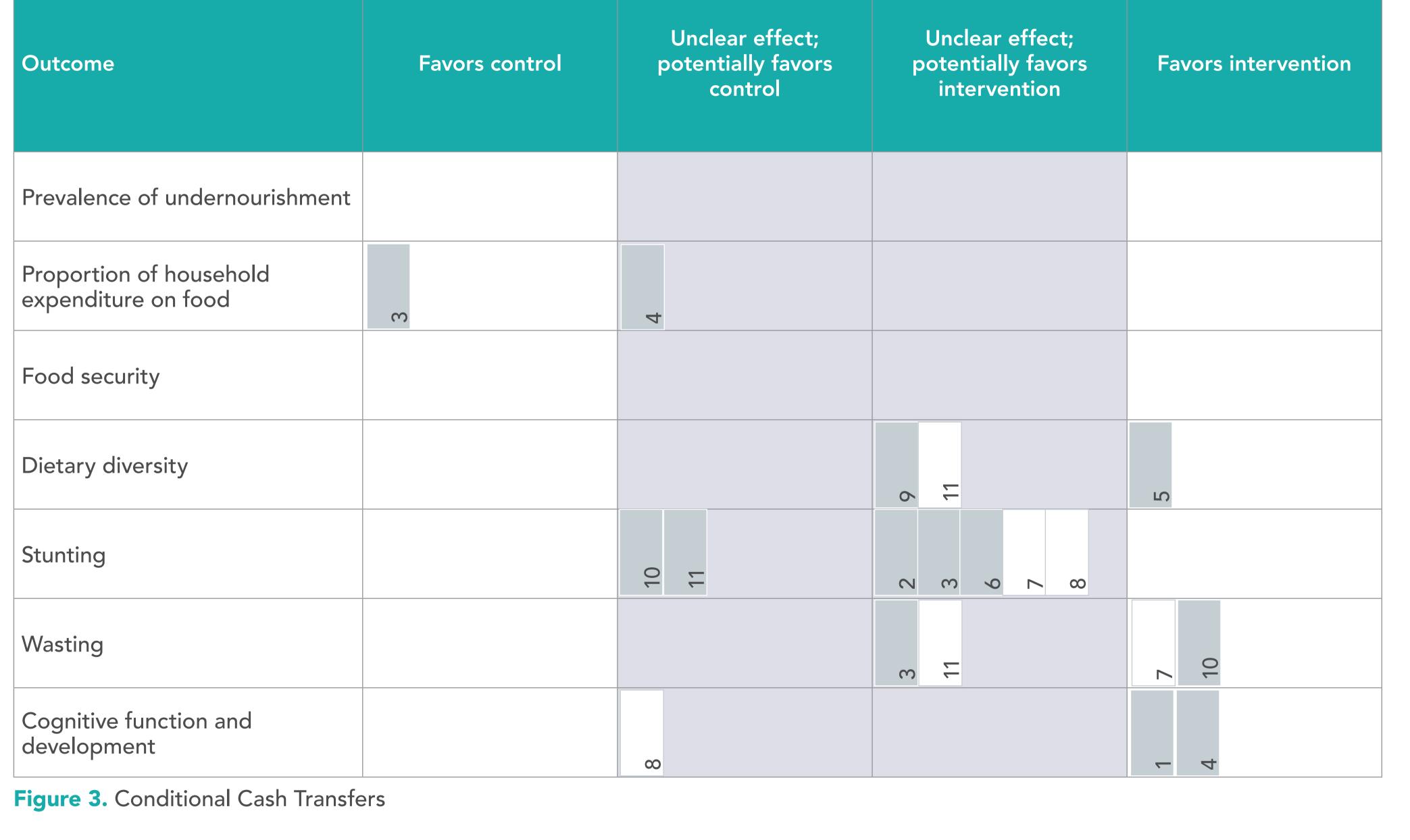
- each bar represents one study the grey shaded area is characterized by uncertainty regarding the effect (e.g. a RR of 1.02, with a 95% CI of 0.91 to 1.15 will be found under 'Unclear effect; favors intervention'
- however, based on the 95% CI we can see that this intervention could also be harmful

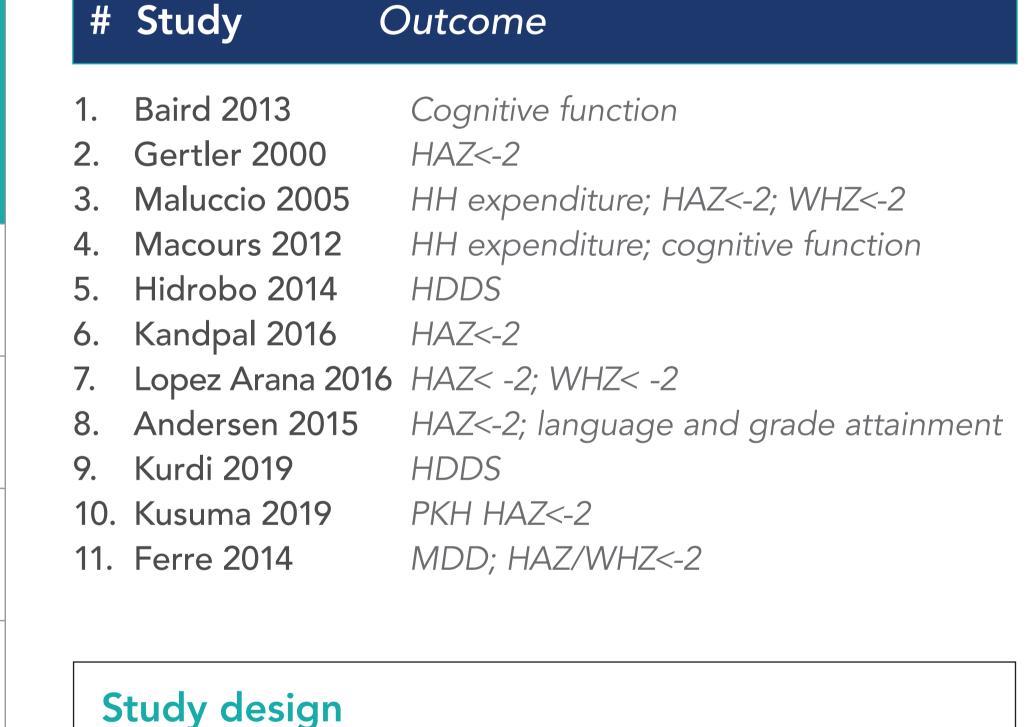
- result in little to no difference in the proportion of household expenditure on food and that they slightly improve cognitive function in children (high-certainty evidence)
- probably slightly improve dietary diversity (moderate-certainty evidence)

2 Conditional cash transfers (CCTs) (nine cRCTs, five PCSs):

may make little to no difference to stunting or wasting (low-certainty evidence)

• Adverse outcomes: two PCSs reported that CCTs make no difference to the proportion of overweight children





each bar represents one study

the grey shaded area is characterized by uncertainty regarding the effect (e.g. a RR of 1.02, with a 95% CI of 0.91 to 1.15 will be found under 'Unclear effect; favors

Prospective controlled study

 however, based on the 95% CI we can see that this intervention could also be harmful

3 Income generation interventions (six cRCTs, 11 PCSs)

- probably make little or no difference to stunting or wasting (moderate-certainty evidence)
- may result in little to no difference to food security (low-certainty evidence)
- may improve dietary diversity in children, but not for households (low-certainty evidence)

INTERVENTIONS THAT ADDRESSED FOOD PRICES:

- 4 Food vouchers
- probably reduce stunting (moderate-
- certainty evidence) may improve dietary diversity slightly (low-

(one cRCT, three PCSs): (three cRCTs, one RCT):

certainty evidence) may result in little to no difference in wasting (low-certainty evidence)

5 Food and nutrition subsidies

- may improve dietary diversity among school children (low-certainty evidence)
- effects on household expenditure on healthy foods as a proportion of total
- the evidence is very uncertain about the community granst may make little or no difference expenditure on food (very low-certainty

INTERVENTIONS THAT ADDRESSED THE SOCIAL ENVIRONMENT:

- 6 Social support interventions (one cRCT, one PCS):
- community grants probably make little or no difference to wasting (moderate-certainty evidence)
- to stunting (low-certainty evidence) the evidence is very uncertain about the effects of village savings and loans on food security and dietary diversity (very low-certainty evidence)

None of the included studies addressed the intervention category of infrastructure changes. In addition, none of the studies reported on one of the primary outcomes of this review, namely prevalence of undernourishment.

Prospective controlled study

CONCLUSIONS

The body of evidence indicates that unconditional cash transfers (UCTs) can improve food security, income-generation interventions do not seem to make a difference for food security, but the evidence is unclear for the other interventions. Conditional cash transfers (CCTs), UCTs, those that help generate income, and those that help minimise impact of food prices through food vouchers and subsidies can potentially improve dietary diversity. UCTs and food vouchers may have a potential impact on reducing stunting, but CCTs, income-generation interventions or social environment interventions do not seem to make a difference on wasting or stunting. CCTs seem to positively impact cognitive function and development but not UCTs. This may be because with CCTs beneficiaries are required to meet specific conditionalities such as attending school, visiting the health clinic regularly for growth monitoring or supplementation.

REFERENCES

¹ Durao S, Visser ME, Ramokolo V, Oliveira JM, Schmidt B-M, Balakrishna Y, Brand A, Kristjansson E, Schoonees A. Community-level interventions for improving access to food in low- and middleincome countries. Cochrane Database of Systematic Reviews 2020, Issue 8. Art. No.: CD011504. DOI: 10.1002/14651858.CD011504.pub3.

²FAO, IFAD, UNICEF, WFP and WHO. The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns. Food and Agriculture Organization 2019, Rome.