

Interventions in Small Island Developing States to improve diet, with a focus on the consumption of local, nutritious foods: a systematic review

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Introduction

- ❖ Small Island Developing States (SIDS) have high rates of nutrition related diseases.
- ❖ This is associated with an increasing reliance on food low in nutritional quality, food imports and decreased local agricultural production.
- ❖ Most SIDS located in the Caribbean and Pacific have import dependency ratios of 60% and above, with predictions of these already high figures increasing soon.
- ❖ Urgent calls have been made for strengthening local food systems, resilient to climate change, to increase the production and consumption of nutritious locally produced food.
- ❖ However, intervention-based evidence is required to identify the most effective ways of addressing this.

Research Aim

To systematically review interventions intended to improve diet in SIDS, with a focus on those that applied a local food approach.

Methods

- ❖ The systematic review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework.
- ❖ The search strategy included studies published since 2000; those conducted in a SIDS setting; ones with an experimental, quasi- and natural experimental evaluation design, that reported on the impact of any aspect of diet.
- ❖ It was applied to twelve databases, including health related: MEDLINE (via Ovid); CINAHL; Global Health (via Ovid); EMBASE (via Ovid); Cochrane Library databases. Social science related databases: Web of Science; Conference Proceedings Citation Index, Science Citation Index Expanded, and Social Science Citation Index; Scopus; Agricultural science related databases: AGRICOLA (US National Agriculture Library); AGRIS (hosted by FAO).
- ❖ The search was also applied to regional databases including LILACS; Afrolib.
- ❖ Screening of titles, abstracts, and data extraction was undertaken in duplicate.
- ❖ Risk of bias was assessed using the Cochrane Risk of Bias Tool for randomised trials, and the Cochrane ROBINS-I tool for non-randomised studies.
- ❖ Narrative synthesis of the results was undertaken.
- ❖ The study protocol was registered: PROSPERO 2020 CRD42020201274.

Results

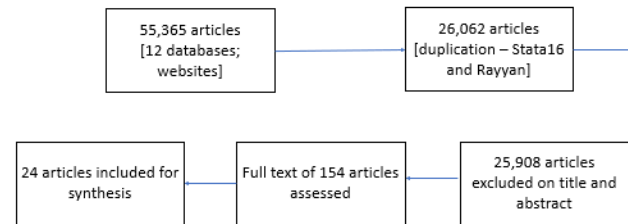


Figure 1: Adapted Preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow chart.

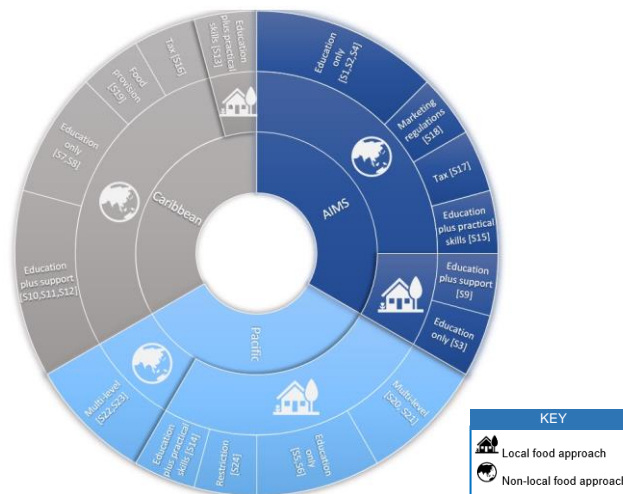


Figure 2: Diet-related interventions in SIDS summarising study location, focus on local or non-local food approach, and the type of intervention.

- ❖ Five studies were of a randomised study design, one an interrupted time series analysis, eight controlled pre and post-test, and ten uncontrolled pre and post-test.
- ❖ Of the 24 studies, most interventions (n=15) included nutrition education, with evidence of effectiveness being largely limited to those that also included practical skills training, such as in vegetable gardening or food preparation.
- ❖ Of the eight studies that took a local food approach,*four showed significant improvements in dietary intake and nutrition knowledge.
- ❖ Of the four interventions that improved dietary intake, two were garden-based nutrition education interventions, supplemented with practical skills components. Three studies met the criteria for low risk of bias, with most (n=13) being at moderate risk.

Conclusion

- ❖ There is an overall lack of robust evidence on interventions to improve diet in SIDS.
- ❖ The existing evidence suggests that multifaceted interventions applying a local food approach are worthy of further investigation
- ❖ Given the increasing reliance on low nutritional quality food imports further development and evaluation of interventions incorporating increased local nutritious food production and consumption is urgently needed to help guide policy.

Acknowledgements

- ❖ Thank you to other members of the ICoFaN project team for their support with this review. This includes members from The State University of Haiti, Richmond Vale Academy and Foundation for Rural Integrated Enterprises & Development (FRIEND).
- ❖ This project was funded through UKRI GCRF Collective Programme, led by BBSRC with MRC and ESRC and we gratefully acknowledge their funding support.



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