

Interventions to increase fruit and vegetable access and consumption among school-aged children: A scoping review

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Study purpose



This scoping review examines the effectiveness of community-based interventions designed to enhance fruit and vegetable (F&V) access, consumption, or both among five to 18-year olds.

Why is access to and consumption of F&V important?



- WHO: low F&V consumption is a global risk factor for mortality
- F&V consumption related to overall health status
 - has a protective role in preventing cancer and several chronic diseases

Why is this issue important among school-aged children?



- Primary prevention of chronic disease
- Growth and development
- F&V consumption is dependent upon:
 - Secure access to healthy foods
 - A culture that supports consumption of healthy foods

Session learning objectives



- Existing evidence
 - School- and community-based programs and policies
 - Environmental factors and policies that impact access and consumption for children
- Program and policy effectiveness
 - To support evidence-informed practice and policy related to nutrition for children

Outcomes of interest



- Primary outcomes:
 - Access to fruit & vegetables
 - Consumption of fruit & vegetables
- Secondary outcomes:
 - Social/psychological outcomes
 - Physiological outcomes
 - Adverse outcomes

What is a scoping review?



- A technique to ‘map’ relevant literature to the field of interest
- Typically does not include quality assessment
- Can be used to inform whether there is sufficient literature to conduct full review
 - Help to narrow review scope for topic with expansive literature base

(Arksey & O’Malley, 2005)

Literature searching methods

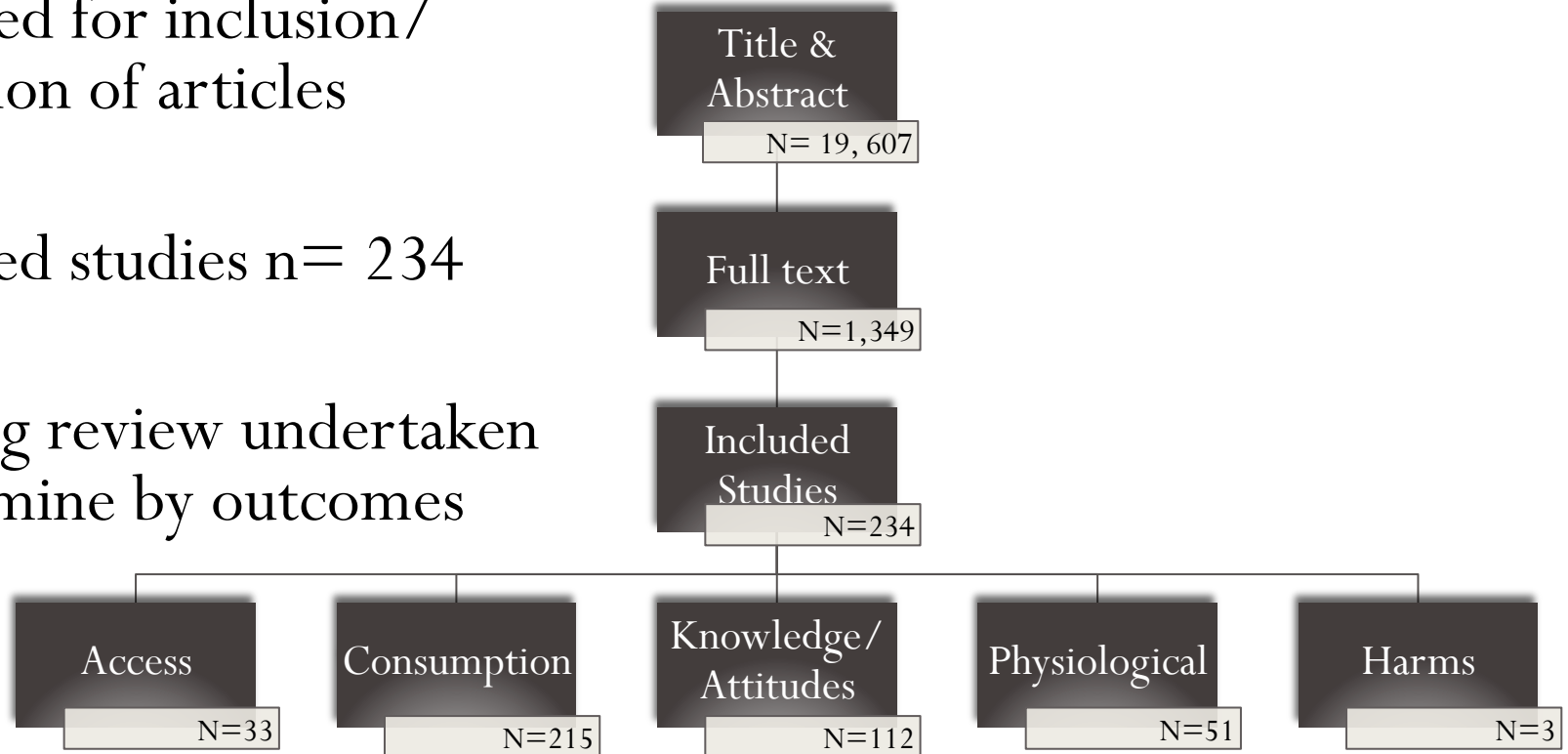


- Comprehensive search strategy:
 - Electronic databases of published studies (n=18)
 - Grey literature
 - Hand search
 - relevant journals (n=15)
 - websites
 - Contact with experts
 - Hand search of included references

Review methods



- Two reviewers independently screened for inclusion/exclusion of articles
- Included studies n= 234
- Scoping review undertaken to examine by outcomes



Study design & outcomes



	Access	Consumption	Knowledge /Attitudes	General health measures	Harms	Total
Systematic reviews	5	25	19	7	0	27
RCTs	1	21	9	9	0	21
Quasi-experimental or cluster controlled	91	127	63	28	3	128
Observational studies	54	57	26	11	0	57

Intervention target population & outcomes



Audience	Access	Consumption	Knowledge/ Attitudes	General health measures	Harms
5-7 year olds	8	79	40	17	1
8-10	22	136	79	33	3
11-14	20	143	73	33	3
15-18	7	56	32	14	0
Parents	11	46	24	17	1
Teachers/service providers	4	10	9	8	1
General public	3	9	3	2	0

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Intervention location & outcomes



- Most common intervention locations were based in:
 - Schools ++
 - Home +
 - Community locations +
- Smaller numbers of studies conducted through:
 - Supermarkets
 - Internet
 - Religious institutions
 - Camps, youth programs
 - Primary care settings

Types of Interventions



- Individual vs. multi-faceted interventions
- Methods of delivery
 - Class series, community garden, provision of F&V, parent involvement, creating supportive environments
- By whom intervention was delivered
 - School employees, health professional, peers

F&V availability is positively associated with consumption



- Modifying food environments can positively impact access to F&V for children:
 - YCMA programs
 - School policies – staff capacity; F&V availability, variety & quality
 - After school programs – snack policies
- Provision of F&V to children at school positively impacts consumption and access at home

What we know about interventions to increase access:



- Multi-strategy community-based interventions have shown some positive impact on home nutrition environments
 - Strategies included in-person education:
 - + multi-media approaches
 - + student skill building
 - + home-based strategies
- Garden programs showed some positive impact on consumption, attitudes, and home food environment
- Monetary incentives – insufficient evidence re: effectiveness among children

What we know about interventions to increase consumption:



- School based programs:
 - Most studies show positive effects on F&V intake
 - Evidence is strongest in favour of multi-component interventions
 - Some studies indicate that a positive change in fruit intake is more likely than in vegetable intake
 - Inconsistent evidence re: long-term sustainability of positive impacts on F&V intake

Are community gardens effective in increasing F&V consumption?



- Community gardens:
 - Only 1 systematic review (11 primary studies)
 - There is promising, but relatively limited evidence that garden programs promote increased F&V intake
 - Also improved preferences for & willingness to taste F&V

Next step: A focused systematic review



- Effectiveness of interventions that impact access to F&V:
 - Fruit and vegetable supply
 - Change in food environment
 - Food disappearance/food transition
 - Food sales within cafeterias & grocery stores
- Quality assessment and data extraction
- Synthesis

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