

Effect of Nutrition Education Intervention on Diet Quality Among Adolescent Girls in South and Southeast Asia: A Systematic Review

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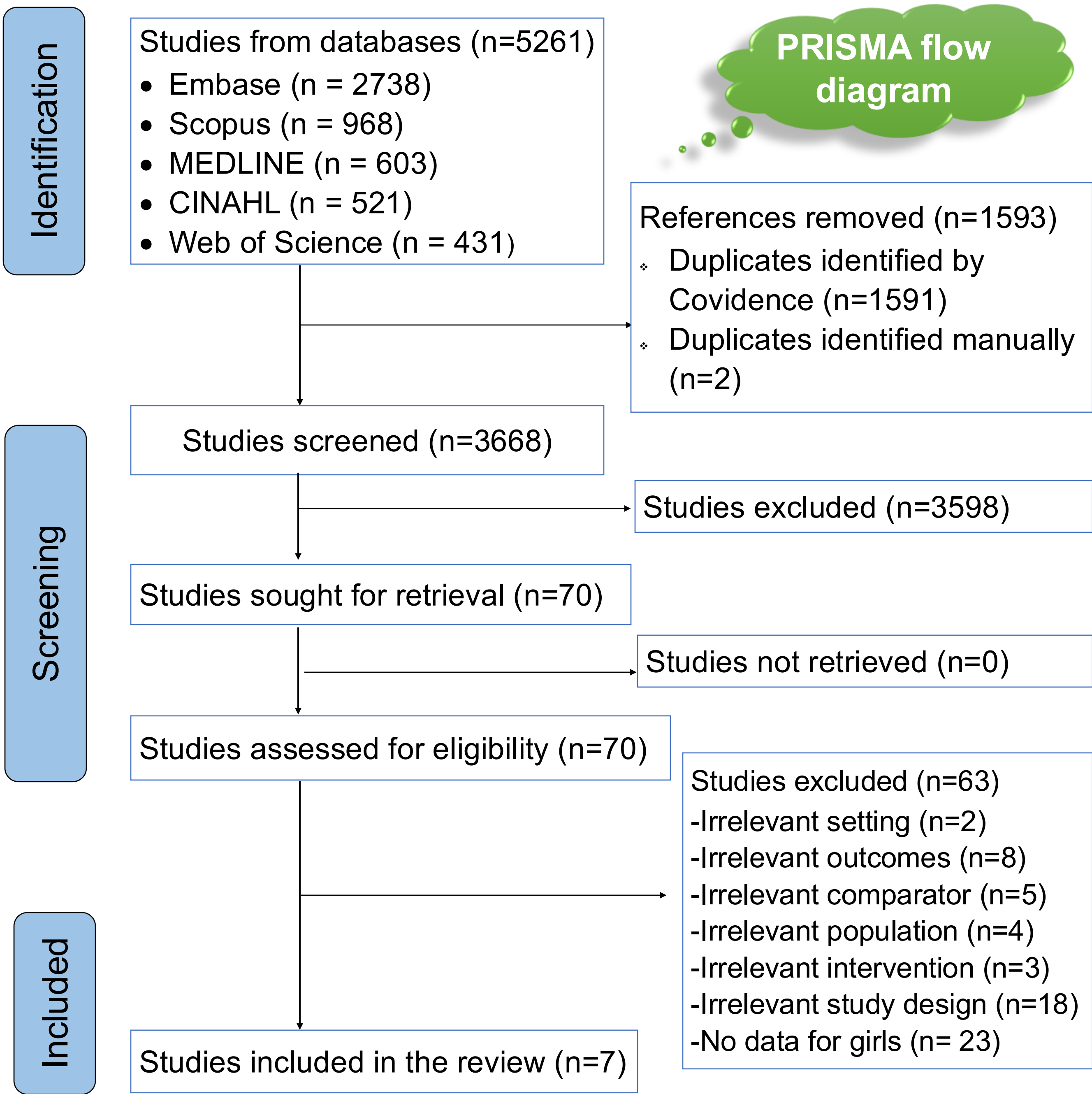
- BACKGROUND
- Adolescent girls in South and Southeast Asia face a high burden of undernutrition, micronutrient deficiencies, and poor diet quality.
 - Diets are often low in diversity and nutrient-rich foods but high in unhealthy, energy-dense items.
 - Nutrition education (NE) has shown potential to improve adolescents' dietary behaviour, yet evidence specific to girls in this region is limited.
 - Previous research shows contradictory findings, highlighting the need for a comprehensive systematic review on diet-quality outcomes among adolescent girls

- METHODS
- PRISMA guideline 2020
 - Registered at PROSPERO: CRD42024620299
 - Search Terms: Followed PICOS (Table 1)
 - Included RCTs and controlled before–after studies (CBAs)
 - Databases: Scopus, Web of Science, Embase, Medline (Ovid), and CINHAI Complete
 - Cochrane Risk of Bias tool (RoB 2) for RCTs
 - Risk of Bias in Non-randomised Studies of Interventions tool for CBAs
 - Narrative synthesis of findings
 - Comparing baseline with post-intervention assessments

Table 1. PICOS criteria for inclusion of studies

Parameter	Criteria
Population	Adolescent girls aged 10-19 years
Intervention	NE intervention
Comparison	No intervention, or interventions other than NE
Outcome	Changes in diet quality or other indicators that represent diet quality, such as dietary diversity, food variety, meal frequency, and dietary intake, such as consumption of fruits and vegetables or specific nutrient-rich foods
Study setting	South and Southeast Asian countries

- RESULTS (Study Characteristics)
- Screened 3,668 articles and finally included 7 articles
 - 3 studies were cluster RCTs, and 4 articles were CBAs
 - 28.5% had a low risk of bias, 28.5% had some concerns, and 42.8% had a high risk of bias
 - All 7 studies had multiple outcomes
 - Most studies (n=5) had multi-component interventions



- RESULTS
- Despite heterogeneity, most studies showed improvements in at least one diet-quality indicator (dietary diversity, food variety, or FAV intake).
 - Multicomponent interventions (nutrition + WASH, empowerment, or skill-building) often produced greater improvements but made it difficult to isolate the effect of nutrition education alone.
 - Parent and teacher engagement enhanced outcomes, supporting literature that multi-stakeholder involvement strengthens adolescent nutrition behaviours.
 - Lacks high-quality studies, highlighting the need for stronger methodologies in future research.
 - No study comprehensively assessed diet quality; inconsistent outcome measures highlight the need for standardised diet quality assessment.

- CONCLUSION
- NE interventions improved diet-quality indicators among adolescent girls, showing potential for scalable school- and community-based programs.
 - To support scale-up, countries should adopt standardised diet-quality measures and focus on stronger, theory-driven intervention designs.
 - Integrating structured NE into national school health and adolescent programs can strengthen policy action and sustainability to improve girls' nutrition at scale.

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