

Table S1. Exact search strategies adapted on databases.

Database	Exact Search	Records
MEDLINE	(((((<i>Abelmoschus esculentus</i> [MeSH Terms]) OR (Okra[MeSH Terms])) OR (<i>Hibiscus esculentus</i> [MeSH Terms])) OR (ladies finger[MeSH Terms])) AND (type 2 diabetes mellitus[MeSH Terms]))	14
Cochrane Library	OKRA OR <i>Abelmoschus esculentus</i> OR <i>Hibiscus esculentus</i> OR ladies finger AND type 2 diabetes mellitus	47
Scopus	(TITLE-ABS-KEY (okra) OR TITLE-ABS-KEY (abelmoschus AND esculentus) OR TITLE-ABS-KEY (hibiscus AND esculentus) OR TITLE-ABS-KEY (ladies AND finger) AND TITLE-ABS-KEY (type 2 diabetes AND mellitus) OR TITLE-ABS-KEY (type 2 diabetes))	48

		Risk of bias domains					
		D1	D2	D3	D4	D5	Overall
Study	Afsharmanesh et al., 2024	+	+	+	+	+	+
	Bahreini et al., 2024	+	+	+	+	+	+
	Chen et al., 2023	✗	+	+	+	?	✗
	Tavakolizadeh et al., 2023	+	+	+	+	+	+
	Saatchi et al., 2021	+	+	+	+	+	+
	Moradi et al., 2019	+	+	+	+	+	+
	Uebelhack et al., 2018 a	+	+	+	+	+	+
	Uebelhack et al., 2018 b	+	+	+	+	+	+
		Domains: D1: Bias arising from the randomization process. D2: Bias due to deviations from intended intervention. D3: Bias due to missing outcome data. D4: Bias in measurement of the outcome. D5: Bias in selection of the reported result.					Judgement ✗ High + Low ? No information

Figure S1. Risk of Bias assessment results.

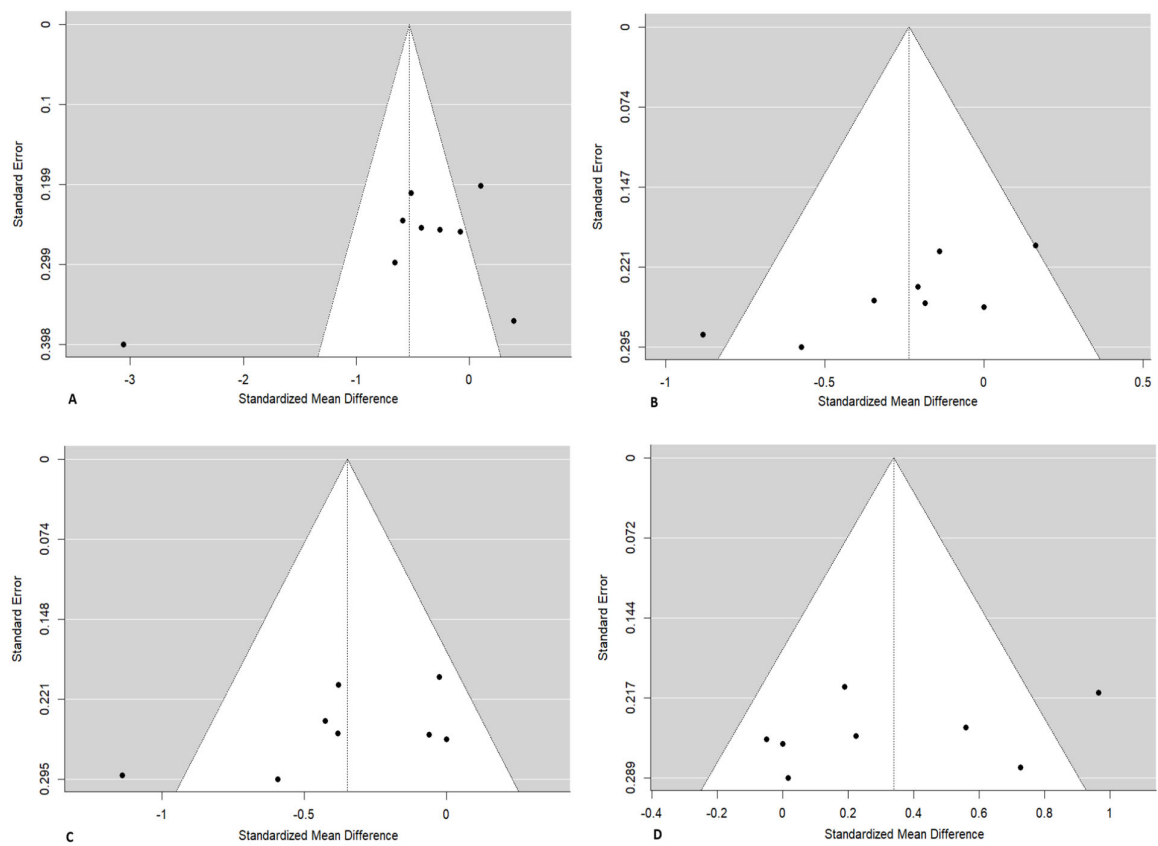


Figure S2. Publication bias across all included studies on different lipids parameters. A total cholesterol, B: triglycerides, C: low-density lipoprotein and D: high-density lipoprotein.

Table S2: Publication Bias Assessment

Test name	Lipid profiles	Value	P
Fail-Safe N	Total cholesterol	90000	<0.001
Begg and Mazumdar Rank Correlation		−0.167	0.612
Egger's Regression		−2.13	0.033
Trim and Fill Number of Studies		0.000	.
Fail-Safe N	Triglyceride	16000	0.003
Begg and Mazumdar Rank Correlation		−0.500	0.109
Egger's Regression		−2.666	0.008
Trim and Fill Number of Studies		0.000	.
Fail-Safe N	Low-density lipoprotein	40000	<0.001
Begg and Mazumdar Rank Correlation		−0.286	0.399
Egger's Regression		−1.756	0.079
Trim and Fill Number of Studies		1.000	.
Fail-Safe N	High-density lipoprotein	38000	<0.001
Begg and Mazumdar Rank Correlation		−0.214	0.548
Egger's Regression		−0.836	0.403
Trim and Fill Number of Studies		0.000	.

Table S3. Risk of bias assessment based on Joanna Briggs Institute (JBI) for the quasi-experimental study

RoB Assessor: K Mokgalaboni	Date of Appraisal: 25 September 2024	Record Number: 1
Study Author: Haryati	Study Title: The effectiveness of okra fruit (Abelmoschus esculentus) on fasting blood sugar and total cholesterol level in type 2 diabetes mellitus	Study Year: 2019

Internal Validity		Choice - Comments/Justification	Yes	No	Unclear	N/A
Bias related to temporal precedence						
1	Is it clear in the study what is the “cause” and what is the “effect” (i.e. there is no confusion about which variable comes first)?		☒	☐	☐	☐
Bias related to selection and allocation						
2	Was there a control group?		☒	☐	☐	☐
Bias related to confounding factors						
3	Were participants included in any comparisons similar?	Equal number of males (4) nd females (11) in both groups	☒	☐	☐	☐
Bias related to administration of intervention/exposure						
4	Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?		☐	☒	☐	☐

Bias related to assessment, detection and measurement of the outcome

5	Were there multiple measurements of the outcome, both pre and post the intervention/exposure?		Yes	No	Unclear	N/A
	Outcome 1	Blood glucose pre and post in both groups	☒	☐	☐	☐
	Outcome 2	Total cholesterol pre and post in both groups	☒	☐	☐	☐

6	Were the outcomes of participants included in any comparisons measured in the same way?		Yes	No	Unclear	N/A
	Outcome 1		☒	☐	☐	☐
	Outcome 2		☒	☐	☐	☐

7	Were outcomes measured in a reliable way?		Yes	No	Unclear	N/A
	Outcome 1		☒	☐	☐	☐
	Outcome 2		☒	☐	☐	☐

Bias related to participant retention

	Was follow-up complete and if not, were differences between groups in terms of their follow-up adequately described and analyzed?					
	Outcome 1		Yes	No	Uncle	N/A
	Result 1		☒	☐	☐	☐
	Outcome 2		Yes	No	Uncle	N/A
	Result 1		☒	☐	☐	☐

Statistical Conclusion Validity

	Was appropriate statistical analysis used?					
	Outcome 1		Yes	No	Uncle	N/A
	Result 1		☒	☐	☐	☐
	Outcome 2		Yes	No	Uncle	N/A
	Result 1		☒	☐	☐	☐

Overall appraisal:

Include: ☒

Exclude: ☐

Seek Further Info: ☐

Comments: The study scored 13 points out of 14 hence classified as good quality