

SDC 2 - Modified Methodological Quality checklist developed by Downs & Black, 1998

Reviewer's initials _____

First Author _____ Journal: _____ Year published _____

Reporting	Yes	No	U/D	Partially
1. Is the hypothesis/aim/objective of the study clearly described?	1	0	0	
2A. Are the main outcomes to be measured clearly described in the Introduction or Methods section?	1	0	0	
2B. Is the cardiometabolic disease biomarker of interest a primary outcome?	1	0	0	
3. Are the characteristics of the study population included in the study clearly described?	1	0	0	
4. Are the interventions under study clearly described?	2	0	0	1
5. Are the distributions of principal confounders in each group of study participants to be compared clearly described?	1	0	0	
6. Are the main findings of the study clearly described?	1	0	0	
7. Does the study provide estimates of the random variability (e.g., standard error, standard deviation, confidence intervals, interquartile range) in the data for the main outcomes?	1	0	0	
8A. Have all important adverse events/negative outcomes that may be a consequence of the intervention been reported?	1	0	0	
8B. Were the screening criteria for study eligibility specified?	1	0	0	
9. Have the characteristics of study participants lost to follow up been described?	1	0	0	
10. Have actual probability values been reported (e.g., 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?	1	0	0	

Total reporting score: _____ /13

External validity	Yes	No	U/D	Partially
11. Were the study participants asked to participate representative of the entire population from which they were recruited?	1	0	0	
12. Were study participants who agreed to participate representative of the entire population from which they were recruited?	1	0	0	
13. Were the staff, places, and facilities where the study participants received the intervention representative of the intervention the majority of subjects receive?	1	0	0	

Total external validity score: _____ /3

Internal validity – bias	Yes	No	U/D	Partially
14. Was an attempt made to blind study participants to the intervention they received?	1	0	0	
15. Was an attempt made to blind those measuring the main outcomes of the intervention?	1	0	0	
16. If any of the results of the study were based on “data dredging,” was this made clear?	1	0	0	
17. In trials and cohort studies, do the analyses adjust for different lengths of follow-up of study participants, or in	1	0	0	

case-control studies, is the time period between the intervention and outcome the same for cases and controls?

18.	Were the statistical tests used to assess the main outcomes appropriate?	1	0	0	
19.	Was compliance with the intervention reliable?	1	0	0	
20.	Were the main outcome measures used accurate (valid and reliable)?	2	0	0	1

Total bias score: _____ /8

Internal validity – confounding		Yes	No	U/D	Partially
21.	Were the study participants in the different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?	1	0	0	
22.	Were study participants in the different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?	1	0	0	
23.	Were study participants randomized to intervention groups?	2	0	0	1
24.	Was the randomized intervention assignment concealed from both study participants and intervention staff until recruitment was complete and irrecoverable?	1	0	0	
25.	Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?	1	0	0	
26.	Were losses of study participants to follow-up taken into account?	1	0	0	

Total confounding score: _____ /7

Power		Yes, ≥2 outcome	Yes, 1 outcome	No
27.	Did the study mention having conducted a power analysis to determine the sample size needed to detect a significant difference in effect size for one or more outcome measures?	2	1	0

Total power score: _____ /2

***Total quality score: _____ /33**

Note. *sum of all domain scores