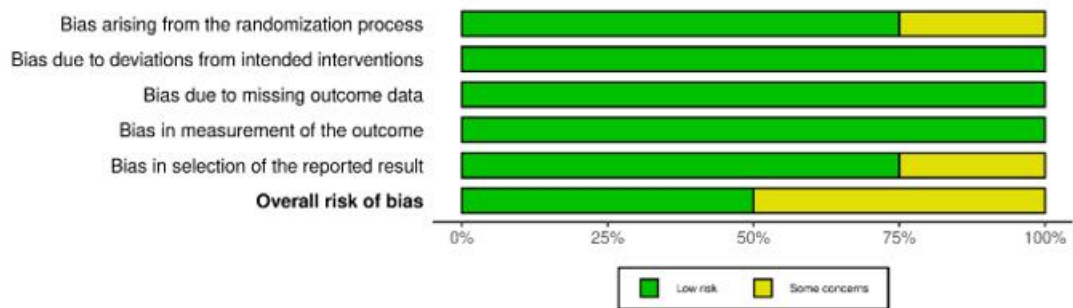


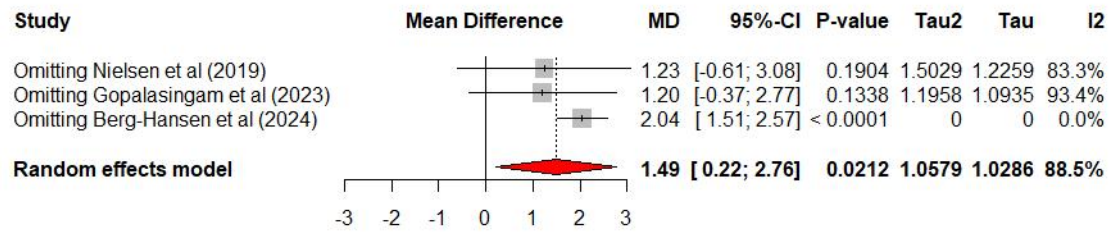
Study	Risk of bias domains					Overall
	D1	D2	D3	D4	D5	
Nielsen et al 2019	+	+	+	+	-	-
Berg-Hansen et al 2024	+	+	+	+	+	+
Gopalasingam et al 2023	-	+	+	+	+	-
Gopalasingam et al 2024	+	+	+	+	+	+

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.

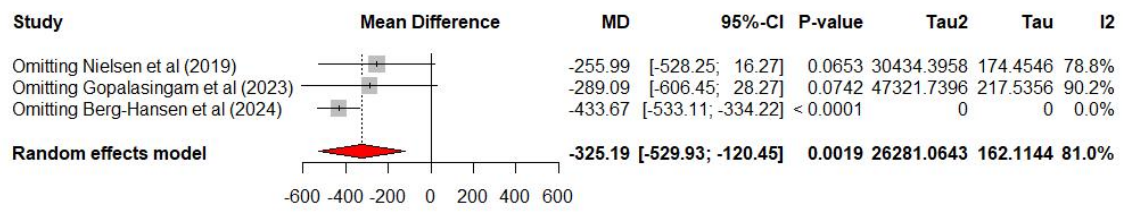
Judgement
- Some concerns
+ Low



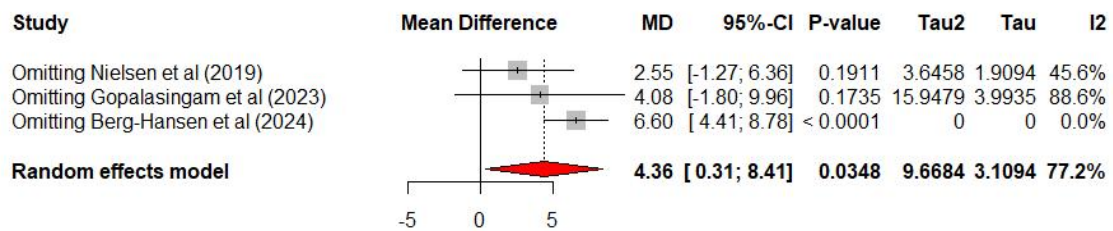
Supplementary Figure 1 Risk of Bias Assessment Using RoB 2 Tool.



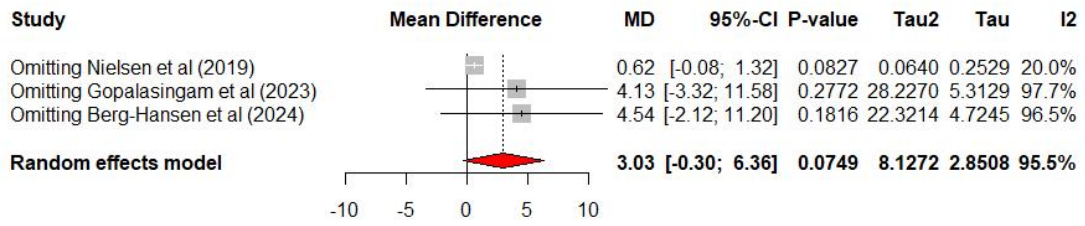
Supplementary Figure 2 Leave-One-Out Sensitivity Analysis for Cardiac Output.



Supplementary Figure 3 Leave-One-Out Sensitivity Analysis for Systemic Vascular Resistance.



Supplementary Figure 4 Leave-One-Out Sensitivity Analysis for Mixed Venous Oxygen Saturation (SvO₂).



Supplementary Figure 5 Leave-One-Out Sensitivity Analysis for Systolic Mitral Plane Peak Excursion Velocity (S'max)

Supplementary Table 1 Detailed Literature Search Strategy

Classification	Explanation
Pubmed	<p>Number of results: 3610</p> <p>("Heart Failure"[MeSH Terms] OR "Heart failure"[All Fields] OR "HF"[All Fields] OR "Heart failure with reduced ejection fraction"[All Fields] OR "HFrEF"[All Fields] OR "Heart failure with preserved ejection fraction"[All Fields] OR "HFpEF"[All Fields] OR "cardiac dysfunction"[All Fields] OR "congestive heart failure"[All Fields] OR "left ventricular dysfunction"[All Fields]) AND ("ketone"[All Fields] OR "ketone ester"[All Fields] OR "ketone body"[All Fields] OR "3-Hydroxybutyrate"[All Fields] OR "beta-hydroxybutyrate"[All Fields] OR "acetoacetate"[All Fields] OR "ketogenesis"[All Fields] OR "ketone metabolism"[All Fields] OR "ketosis"[All Fields] OR "exogenous ketones"[All Fields] OR "fat metabolism"[All Fields] OR "energy metabolism"[All Fields])</p>
Scopus	<p>Number of results: 170</p> <p>(TITLE-ABS-KEY("heart failure" OR "HFrEF" OR "heart failure with reduced ejection fraction" OR "HFpEF" OR "heart failure with preserved ejection fraction" OR "chronic heart failure" OR "congestive heart failure" OR "cardiac dysfunction" OR "left ventricular dysfunction" OR "cardiomyopathy" OR "systolic heart failure" OR "diastolic heart failure")) AND (TITLE-ABS-KEY("ketone" OR "ketone ester" OR "ketone body" OR "3-Hydroxybutyrate" OR "beta-hydroxybutyrate" OR "acetoacetate" OR "ketogenesis" OR "ketone metabolism" OR "ketosis" OR "exogenous ketones" OR "fat metabolism" OR "energy metabolism" OR "fat oxidation" OR "mitochondrial metabolism" OR "metabolic therapy" OR "alternative fuel metabolism"))</p>