

## Supplementary Online Material

# The Effect of Palm Oil on Health Outcomes: A Protocol for Systematic Reviews and Meta-analyses of Controlled Clinical Trials

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### Table of Protocol

**Supplementary table 1-** The search strategy used to search different database.

| Database | Search strategy  |
|----------|--|
| PubMed   | ("Palm Oil"[Mesh] OR "palmitic acids"[Mesh] OR "Palmitic acids"[tiab] OR palmolein[tiab] OR "palm oil"[tiab] OR (palm[tiab] AND oil[tiab]) OR "Palm olein"[tiab] OR "oil palm" [tiab] OR "palmitic acid"[tiab] OR "Hexadecanoic Acid"[tiab] OR palmitate[tiab] OR "elaeis guineensis"[tiab] OR "Elaeis oleifera"[TIAB]) AND (intervention [tiab] OR Intervention*[tiab] OR trial[tiab] OR randomized[tiab] OR randomised[tiab] OR random[tiab] OR randomly[tiab] OR placebo[tiab] OR assignment[tiab] OR "clinical trial"[publication type] OR RCT[tiab] OR "Clinical Trials as Topic"[Mesh] OR cross-over[tiab] OR parallel[tiab] OR "Body weight"[tiab] OR "body weight"[mesh] OR weight[tiab] OR "Body mass index"[mesh] OR "Body mass index"[tiab] OR BMI[tiab] OR "Waist Circumference"[tiab] OR "Waist Circumference"[mesh] OR WC[tiab] OR WHR[tiab] OR FFM[tiab] OR LBM[tiab] OR FM[tiab] OR "Waist-Hip Ratio"[Mesh] OR "Waist-Hip Ratio"[tiab] OR adipokines[tiab] OR adipokines[mesh] OR adiponectin[tiab] OR leptin[tiab] OR resistin[tiab] OR Interleucin-6[tiab] OR Interleucin-1[tiab] OR "C-reactive protein"[tiab] OR "C-reactive protein"[mesh] OR "Inflammatory factors"[tiab] OR "Inflammatory markers"[tiab] OR "Tumor necrosis factor-alpha"[mesh] OR "Tumor necrosis factor-alpha"[tiab] OR VCAM[tiab] OR ICAM[tiab] OR E-selectin[tiab] OR "Blood pressure"[mesh] OR "Blood pressure"[tiab] OR BP[tiab] OR "diastolic pressure"[tiab] OR "systolic pressure"[tiab] OR "pulse pressure"[tiab] OR "systolic pressure"[tiab] OR hypertension[tiab] OR hypertension[mesh] OR "blood pressures"[tiab] OR "arterial pressure"[tiab] OR "Arterial tension"[tiab] OR "arterial tensions"[tiab] OR "systolic blood pressure"[tiab] OR "diastolic blood pressure"[tiab] OR SBP[tiab] OR DBP[tiab] OR MAP[tiab] OR "arterial blood pressure"[tiab] OR "Aortic plus pressure"[tiab] OR "Aortic plus pressures"[tiab] OR "Aortic pressure"[tiab] OR "Aortic pressures"[tiab] OR "Aortic tension"[tiab] OR "Aortic |

tensions"[tiab] OR "systolic arterial pressure"[tiab] OR "Aortic pressure"[tiab] OR "Isoprostanes"[Mesh] OR "8-oxo-7-hydrodeoxyguanosine" [Supplementary Concept] OR 8-hydroxydeoxyguanosine[tiab] OR 8-oxo-dG[tiab] OR "oxidized low density lipoprotein" [Supplementary Concept] OR oxidized LDL[tiab] OR OxLDL[tiab] OR ox-LDL[tiab] OR "Thiobarbituric Acid Reactive Substances"[Mesh] OR "Thiobarbituric Acid Reactive Substances"[tiab] OR TBARS[tiab] OR "Malondialdehyde"[Mesh] OR "Malondialdehyde"[tiab] OR MDA[tiab] OR "Reactive Oxygen Species"[Mesh] OR "Reactive Oxygen Species"[tiab] OR ROS[tiab] OR "Free Radicals"[Mesh] OR "Oxidative Stress"[Mesh] OR "Oxidative Stress"[tiab] OR Lipoproteins\*[tiab] OR "Lipoproteins, HDL"[Mesh] OR HDL[tiab] OR High-Density Lipoproteins[tiab] OR High Density Lipoproteins[tiab] OR "Lipoproteins, LDL"[Mesh] OR "Lipoproteins, LDL"[tiab] OR LDL[tiab] OR Low Density Lipoproteins[tiab] OR Low-Density Lipoproteins[tiab] OR Low-Density Lipoproteins[tiab] OR Low-Density Lipoprotein[tiab] OR "Apolipoprotein A-I"[Mesh] OR Apolipoprotein A-1[tiab] OR Apo A-1[tiab] OR Apo AI[tiab] OR "Triglycerides"[Mesh] OR "Triglycerides"[tiab] OR TG[tiab] OR "low density lipoprotein triglyceride" [Supplementary Concept] OR "HDL-triglyceride" [Supplementary Concept] OR "Cholesterol"[Mesh] OR "Cholesterol"[tiab] OR CH[tiab]) NOT (mouse[tiab] OR mice[tiab] OR rats[tiab] OR in-vitro[tiab] OR "in vitro"[tiab] OR Pig[tiab] OR Rabbit[tiab] OR Rooster[tiab] OR cell[tiab] OR cells[tiab] OR cow[tiab] OR cows[tiab] OR hamsters[tiab] OR chicken[tiab] OR chickens[tiab] OR "cross sectional"[tiab] OR "case control"[tiab] OR pigs[tiab] OR "case report"[tiab])

(TITLE-ABS-KEY("Palm Oil") OR TITLE-ABS-KEY("palmitic acids") OR TITLE-ABS-KEY(palmolein) OR TITLE-ABS-KEY(palm AND oil) OR TITLE-ABS-KEY("Palm olein") OR TITLE-ABS-KEY("oil palm") OR TITLE-ABS-KEY("palmitic acid") OR TITLE-ABS-KEY("Hexadecanoic Acid") OR TITLE-ABS-KEY(palmitate) OR TITLE-ABS-KEY("elaeis guineensis") OR TITLE-ABS-KEY("Elaeis oleifera")) AND (TITLE-ABS-KEY(intervention) OR TITLE-ABS-KEY(trial) OR TITLE-ABS-KEY(randomized) OR TITLE-ABS-KEY(random) OR TITLE-ABS-KEY(randomly) OR TITLE-ABS-KEY(placebo) OR TITLE-ABS-KEY (assignment) OR TITLE-ABS-KEY("clinical trial") OR TITLE-ABS-KEY(RCT) OR TITLE-ABS-KEY("Clinical Trials as Topic") OR TITLE-ABS-KEY(cross-over) OR TITLE-ABS-KEY(parallel) OR TITLE-ABS-KEY("Body weight") OR TITLE-ABS-KEY(weight) OR TITLE-ABS-KEY("Body mass index") OR TITLE-ABS-KEY(BMI) OR TITLE-ABS-KEY("Waist Circumference") OR TITLE-ABS-KEY (WC) OR TITLE-ABS-KEY(WHR) OR TITLE-ABS-KEY(FFM) OR TITLE-ABS-KEY(LBM) OR TITLE-ABS-KEY(FM) OR TITLE-ABS-KEY("Waist-Hip Ratio") OR TITLE-ABS-KEY(adipokine) OR TITLE-ABS-KEY(adipokines) OR TITLE-ABS-KEY (adiponectin) OR TITLE-ABS-KEY(leptin) OR TITLE-ABS-KEY(resistin) OR TITLE-ABS-KEY(Interleucin-6) OR TITLE-ABS-KEY(Interleucin-1) OR TITLE-ABS-KEY("C-reactive protein") OR TITLE-ABS-KEY("Inflammatory factors") OR TITLE-ABS-KEY("Inflammatory markers") OR TITLE-ABS-KEY("Tumor necrosis factor-alpha") OR TITLE-ABS-KEY(VCAM) OR TITLE-ABS-KEY(ICAM) OR TITLE-ABS-KEY(E-selectin) OR TITLE-ABS-KEY("Blood pressure") OR TITLE-ABS-KEY(BP) OR TITLE-ABS-KEY("diastolic pressure") OR TITLE-ABS-KEY("systolic pressure") OR TITLE-ABS-KEY("pulse pressure") OR TITLE-ABS-KEY("systolic pressure") OR TITLE-ABS-KEY(hypertension) OR TITLE-ABS-KEY(hypertension) OR TITLE-ABS-KEY("blood pressures") OR TITLE-ABS-KEY("arterial pressure") OR TITLE-ABS-KEY("Arterial tension") OR TITLE-ABS-KEY("arterial tensions") OR TITLE-ABS-KEY("systolic blood pressure") OR TITLE-ABS-KEY("diastolic blood pressure") OR TITLE-ABS-KEY(SBP) OR TITLE-ABS-KEY(DBP) OR TITLE-ABS-KEY(MAP) OR

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TITLE-ABS-KEY("arterial blood pressure") OR TITLE-ABS-KEY("Aortic plus pressures") OR TITLE-ABS-KEY("Aortic pressure") OR TITLE-ABS-KEY("Aortic pressures") OR TITLE-ABS-KEY("Aortic tension") OR TITLE-ABS-KEY("Aortic tensions") OR TITLE-ABS-KEY ("systolic arterial pressure") OR TITLE-ABS-KEY ("Aortic pressure") OR TITLE-ABS-KEY("Isoprostanes") OR TITLE-ABS-KEY("8-oxo-7-hydrodeoxyguanosine") OR TITLE-ABS-KEY(8-hydroxydeoxyguanosine) OR TITLE-ABS-KEY (8-oxo-dG) OR TITLE-ABS-KEY("oxidized low density lipoprotein") OR TITLE-ABS-KEY(oxidized LDL) OR TITLE-ABS-KEY(OxLDL) OR TITLE-ABS-KEY(ox-LDL) OR TITLE-ABS-KEY("Thiobarbituric Acid Reactive Substances") OR TITLE-ABS-KEY(TBARS) OR TITLE-ABS-KEY("Malondialdehyde") OR TITLE-ABS-KEY("Malondialdehyde") OR TITLE-ABS-KEY(MDA) OR TITLE-ABS-KEY("Reactive Oxygen Species") OR TITLE-ABS-KEY(ROS) OR TITLE-ABS-KEY("Free Radicals") OR TITLE-ABS-KEY ("Oxidative Stress") OR TITLE-ABS-KEY("Oxidative Stress") OR TITLE-ABS-KEY(Lipoproteins\*) OR TITLE-ABS-KEY("Lipoproteins, HDL") OR TITLE-ABS-KEY(HDL) OR TITLE-ABS-KEY(High-Density Lipoproteins) OR TITLE-ABS-KEY("Lipoproteins, LDL") OR TITLE-ABS-KEY(LDL) OR TITLE-ABS-KEY(Low Density Lipoproteins) OR TITLE-ABS-KEY(Low-Density Lipoproteins) OR TITLE-ABS-KEY(Low-Density Lipoprotein) OR TITLE-ABS-KEY ("Apolipoprotein A-I") OR TITLE-ABS-KEY(Apolipoprotein A-1) OR TITLE-ABS-KEY(Apo A-1) OR TITLE-ABS-KEY (Apo AI) OR TITLE-ABS-KEY("Triglycerides") OR TITLE-ABS-KEY(TG) OR TITLE-ABS-KEY("low density lipoprotein triglyceride") OR TITLE-ABS-KEY("HDL-triglyceride") OR TITLE-ABS-KEY("Cholesterol") OR TITLE-ABS-KEY(CH)) AND NOT (TITLE-ABS-KEY(mouse) OR TITLE-ABS-KEY(mice) OR TITLE-ABS-KEY(rats) OR TITLE-ABS-KEY(in-vitro) OR TITLE-ABS-KEY("in vitro") OR TITLE-ABS-KEY(Pig) OR TITLE-ABS-KEY(Rabbit) OR TITLE-ABS-KEY(Rooster) OR TITLE-ABS-KEY(cell) OR TITLE-ABS-KEY(cells) OR TITLE-ABS-KEY(cow) OR TITLE-ABS-KEY(cows) OR TITLE-ABS-KEY(hamsters) OR TITLE-ABS-KEY(chicken) OR TITLE-ABS-KEY(chickens) OR TITLE-ABS-KEY ("cross sectional") OR TITLE-ABS-KEY ("case control") OR TITLE-ABS-KEY(pigs) OR TITLE-ABS-KEY("case report"))

(TS=("Palm Oil") OR TS=("palmitic acids") OR TS=(palmolein) OR TS=(palm AND oil) OR TS=("Palm olein") OR TS=("oil palm") OR TS=("palmitic acid") OR TS=("Hexadecanoic Acid") OR TS=(palmitate) OR TS=("elaeis guineensis") OR TS=("Elaeis oleifera")) AND (TS=(intervention) OR TS=(trial) OR TS=(randomized) OR TS=(random) OR TS=(randomly) OR TS=(placebo) OR TS=(assignment) OR TS=("clinical trial") OR TS=(RCT) OR TS=("Clinical Trials as Topic") OR TS=(cross-over) OR TS= (parallel) OR TS=("Body weight") OR TS=(weight) OR TS=("Body mass index") OR TS=(BMI) OR TS=("Waist Circumference") OR TS=(WC) OR TS=(WHR) OR TS=(FFM) OR TS=(LBM) OR TS=(FM) OR TS=("Waist-Hip Ratio") OR TS=(adipokines) OR TS=(adiponectin) OR TS=(leptin) OR TS=(resistin) OR TS=(Interleucin-6) OR TS=(Interleucin-1) OR TS=("C-reactive protein") OR TS=("Inflammatory factors") OR TS=("Inflammatory markers") OR TS=("Tumor necrosis factor-alpha") OR TS=(VCAM) OR TS=(ICAM) OR TS=(E-selectin) OR TS=("Blood pressure") OR TS=(BP) OR TS=("diastolic pressure") OR TS=("systolic pressure") OR TS=("pulse pressure") OR TS=("systolic pressure") OR TS=(hypertension) OR TS=(hypertension) OR TS=("blood pressures") OR TS=("arterial pressure") OR TS=("Arterial tension") OR TS=("arterial tensions") OR TS=("systolic blood pressure") OR TS=("diastolic blood pressure") OR TS=(SBP) OR TS=(DBP) OR TS=(MAP) OR TS=("arterial blood pressure") OR TS=("Aortic plus pressures") OR TS=("Aortic pressure") OR TS=("Aortic pressures") OR TS=("Aortic tension") OR TS=("Aortic tensions") OR TS=("systolic arterial pressure") OR TS=("Aortic pressure") OR TS=("Isoprostanes") OR

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TS=("8-oxo-7-hydrodeoxyguanosine") OR TS=(8-hydroxydeoxyguanosine) OR TS=(8-oxo-dG) OR TS=("oxidized low density lipoprotein") OR TS=(oxidized LDL) OR TS=(OxLDL) OR TS=(ox-LDL) OR TS=("Thiobarbituric Acid Reactive Substances") OR TS=(TBARS) OR TS=("Malondialdehyde") OR TS=("Malondialdehyde") OR TS=(MDA) OR TS=("Reactive Oxygen Species") OR TS=(ROS) OR TS=("Free Radicals") OR TS=("Oxidative Stress") OR TS=("Oxidative Stress") OR TS=(Lipoproteins\*) OR TS=("Lipoproteins, HDL") OR TS=(HDL) OR TS=(High-Density Lipoproteins) OR TS=("Lipoproteins, LDL") OR TS=(LDL) OR TS=(Low Density Lipoproteins) OR TS=(Low-Density Lipoproteins) OR TS=(Low-Density Lipoprotein) OR TS=("Apolipoprotein A-I") OR TS=(Apolipoprotein A-1) OR TS=(Apo A-1) OR TS=(Apo AI) OR TS=("Triglycerides") OR TS=(TG) OR TS=("low density lipoprotein triglyceride") OR TS=("HDL-triglyceride") OR TS=("Cholesterol") OR TS=(CH)) NOT (TS=(mouse) OR TS=(mice) OR TS=(rats) OR TS=(in-vitro) OR TS=("in vitro") OR TS=(Pig) OR TS=(Rabbit) OR TS=(Rooster) OR TS=(cell) OR TS=(cells) OR TS=(cow) OR TS=(cows) OR TS=(hamsters) OR TS=(chicken) OR TS=(chickens) OR TS=("cross sectional") OR TS=("case control") OR TS=(pigs) OR TS=("case report"))

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Supplementary table 1. The search strategy used to search different database