

List of Abbreviations

AA	Arachidonic acid
ABG	Average blood glucose
ACE	Angiotensin-Converting Enzyme
ADA	American Dietetic Association
ADMA	Asymmetric dimethylarginine
ADP	Adenosine diphosphate
AHA	American heart association
AIIMS	All India institute of medical sciences
AIP	Atherogenic index of plasma
ALA	Alpha linolenic acid
ALT	Alanine Transaminase
AMDR	Acceptable Macronutrient Distribution Range
AMH	Anti mullerian hormone
ANCOVA	Analysis of covariance
Ang II	Angiotensin II
ANOVA	Analysis of variance
AOAC	Association of Analytical Communities
Apo	Apolipoprotein
ARC	Arcuate nucleus
AST	Aspartate Aminotransferase
ATP III	Adult Treatment Panel III
ATP	Adenosine tri phosphate
BAIF	Bharatiya Agro Industries Foundation
BMI	Body mass index
BP	Blood pressure
BUN	Blood urea nitrogen
CAD	Coronary artery disease
CBC	Complete blood count
CCL	Chemokine ligand
CD11c	Integrin alpha X chain protein
CDC	Centre of disease control
CE	Cholesterol esterase
CHD	Coronary heart disease
CHO	Carbohydrate



CHOD POD	cholesterol oxidase- peroxidase
CI	Confidence interval
CLA	Conjugated linoleic acid
CMIA	Chemiluminescent Microparticle Immunoassay
CN	Cyanide
CNS	Central nervous system
CoA	Coenzyme A
Col-6	Collagen type 6
COX	Cyclooxygenase
CRISIS	Coronary Risk of Insulin Sensitivity in Indian Subjects
CRP	C reactive protein
CURES	Chennai urban rural epidemiology study
CVD	Cardiovascular disease
DAMPs	Damage-associated molecular patterns
DBP	Diastolic blood pressure
DC	Dendritic Cell
DEXA	Dual-energy x-ray absorptiometry
DGLA	Dihomo γ -Linoleic acid
DHA	Docosahexaenoic acid
DHEA-S	Dehydroepiandrosterone sulphate
DNA	Deoxyribo nucleic Acid
DPA	Docosapentaenoic acid
DPPH RSA	2,2-diphenyl-1-picrylhydrazyl radical scavenging activity
DTT	Dithiothreitol
E1	Estrone
E2	Estradiol
E3	Estriol
ED	Enterodiol
eNOS	Endothelial nitric oxide synthase
EPA	Eicosapentaenoic acid
ER	Estrogen receptor
ESR	Erythrocyte sedimentation rate
Esr1	Estrogen receptor 1
ET-1	Endothelin-1
FAO	Food and Agriculture Organization
FBP	Folate Binding Protein
FBS	Fasting Blood Sugar
FFA	Free fatty acid



FFQ	Food frequency questionnaire
FH	Family history
FRAP	Ferric-Reducing Antioxidant Power
FSH	Follicle stimulating hormone
GAE	Gallic acid equivalent
GC-MS	Gas chromatography–mass spectrometry
GGT	Gamma Glutamyl Transferase
GHb	Glycohemoglobin
GIP	Gastrointestinal peptide
GLA	γ -Linoleic acid
GLP-I	Glucose-dependent insulintropic peptide
GLUT	Glucose Transporter
GPAQ	Global physical activity questionnaire
GPO	Glycerol phosphate oxidase
GRAS	Generally recognized as safe
Hb	Hemoglobin
HbA1c	Glycated haemoglobin
HC	Hip circumference
HCL	Hydrochloric acid
HCN	Hydrogen cyanide
HDL-C	High density lipoprotein cholesterol
HEC	Hyperinsulinemic euglycemic clamp
HIF	Hypoxia-inducible factors
HIG	High income group
HMG CoA	3-hydroxy-3-methyl-glutaryl-coenzyme A reductase
HOMA-IR	Homeostatic model assessment for insulin resistance
HR	Hazard ratio
HRT	Hormonal replacement therapy
HSC	Higher secondary certificate
Hs-CRP	High sensitivity C reactive protein
ICMR	Indian council of medical research
ICP-OES	Inductively coupled plasma optical emission spectrometry
IDA	Iron deficiency anemia
IDF	International diabetic federation
IECHR	Institutional ethical committee for human research
IF	Intrinsic factor
IFCT	Indian food composition table
IFG	Impaired Fasting Glucose



IFN	Type I interferon
IGT	Impaired Glucose Tolerance
IHD	Ischemic heart disease
IKK	I κ B kinase
IL	Interleukin
iNOS	Inducible nitric oxide synthase
IPAQ	International Physical activity Questionnaire
IRS	Insulin receptor substrate
JHW	Jaipur heart watch
JNK	c-Jun N-terminal kinase
KOH	Potassium hydroxide
LA	Linoleic acid
LC	Lifestyle counselling
LCF	Lifestyle counselling and flaxseed
LCW	Lifestyle counselling and walnut
LDL-C	Low density lipoprotein cholesterol
LH	Luteinizing hormone
LIG	Low income group
LOX	Lipoxygenase
Lp(a)	Lipoprotein(a)
LPIN1	Lipin-1
LPL	Lipoprotein lipase
MCH	Mean cell hemoglobin
MCHC	Mean cell hemoglobin concentration
MCP-1	Monocyte chemotactic protein-1
MCV	Mean cell volume
MET	Metabolic equivalent
MHC	Major histocompatibility complex
MI	Myocardial infraction
MIG	Middle income group
MMA	Methyl melanoic acid
mRNA	Messenger Ribonucleic acid
MS	Metabolic syndrome
MUFA	Monounsaturated fatty acid
NAD	Nicotinamide adenine dinucleotide
NADH	Nicotinamide adenine dinucleotide dehydrogenase
NAFLD	Non-alcoholic fatty liver disease
NAIP	National Agricultural Innovation project



NaOH	Sodium hydroxide
NCCLS	National Committee for Clinical Laboratory Standards
NCD	Non communicable disease
NCEP	National cholesterol education program
NFHS	National family health survey
NF- κ B	Nuclear factor- kappa beta
NGO	Non-governmental organization
NHANES	National Health and Nutrition Examination Survey
NHLBI	National Heart, Lung, and Blood Institute
NIDDM	Non-insulin dependent diabetes mellitus
NIN	National institute of nutrition
NIST	National Institute of Standards and Technology
NLRs	NOD-like receptors
NMH	Non-communicable diseases and mental health
NO	Nitric oxide
NOD	Nucleotide-binding oligomerization
NPCDCS	National Program for Prevention and Control of Cancer, Diabetes, CVD and Stroke
NPK (Fertilizer)	Nitrogen, Phosphorous, and Potassium fertilizer
NRHM	National Rural health mission
NSSO	National sample survey organization
NTD	Neural tube defect
OGTT	Oral glucose tolerance test
OH	Hydroxy
OR	Odds ratio
OW	Overweight
PABA	Para-aminobenzoic acid
PAI-1	Plasminogen activator inhibitor 1
PAMPs	Pathogen-associated molecular patterns
PAP	Papanicolaou
PDW	Platelet distribution width
PFA	Perfluoroalkoxy
PGE ₂	Prostaglandin E2
PHD	Prolyl hydroxylase domain enzyme
PKC	Protein kinase C
PKR	Protein kinase R
POMC	Pro-opiomelanocortin
PP2BS	Postprandial blood sugar



PPAR	Peroxisome proliferator-activated receptor
PUFA	Polyunsaturated fatty acid
QUICKI	Quantitative insulin sensitivity check index
RAS	Renin angiotensin system
RBC	Red blood cells
RCT	Randomized control trial
RDA	Recommended dietary allowance
RDW	Red cell distribution width
RE	Rutin equivalents
RER	Rough endoplasmic reticulum
RLUs	Relative light units
RMR	Resting metabolic syndrome
RNS	Reactive nitrogen species
RO	Reverse osmosis
ROS	Reactive oxygen species
SAM	S-adenosylmethionine
SBP	Systolic blood pressure
SCFA	Short chain fatty acid
SDG	Secoisolariciresinol diglucoside
SDGs	Sustainable development goals
SEAR	South East Asian region
SECO	Secoisolariciresinol
SF1	Steroidogenic factor-1
SFA	Saturated fatty acid
SGOT	Serum Glutamate Oxaloacetate Transaminase
SGPT	Serum Glutamate Pyruvate Transaminase
SHBG	Sex hormone binding globulin
sICAM-1	Soluble intercellular adhesion molecule-1
SPSS	Statistical package for social sciences
SREBP	Sterol regulatory element-binding protein
SSC	Senior school certificate
STRAW	Stages of reproductive aging workshop
SWAN	Study of women's health across the nation
T2DM	Type two diabetes mellitus
T3	Triiodothyronine
T4	Tetraiodothyronine
TBARS	Thiobarbituric acid reactive substances
TC	Total cholesterol



TCA	Tricarboxylic acid
TCR	T-cell receptor
TE	Trolox equivalents
TEAC	Trolox-equivalent antioxidant capacity
TFM	Total fat mass
TG	Triglycerides
TGF	Transforming growth factor
Th	T-helper cells
TIBC	Total iron binding capacity
TLC	Total leucocyte count
TLRs	Toll-like receptors
TNF	Tumor necrosis factor
TPTZ	2, 4, 6-tris (2-pyridyl)-s-triazine
Trag	Type IV secretion system protein
TSH	Thyroid Stimulating Hormone
US IOM	United States institute of medicine
US-FDA	United States food and drug administration
VLDL-C	Very low density lipoprotein cholesterol
VMN	Ventromedial hypothalamic nucleus
WBC	White blood cell
WC	Waist circumference
WHO	World health organization
WHR	Waist hip ratio
WSR	Waist stature ratio
α -SMA	α smooth muscle actin
%TS	percent transferrin saturation

