

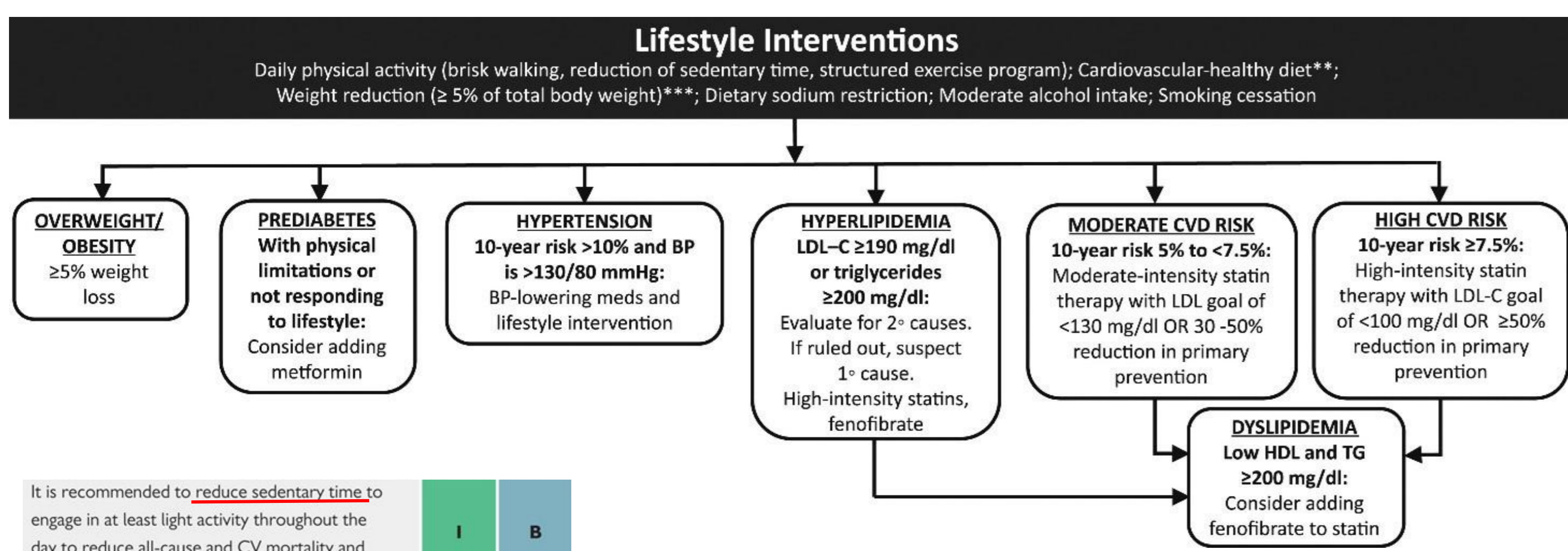
SINDROME METABOLICA

Marica Bonfanti

La sindrome metabolica è una condizione clinica che riguarda pazienti con **obesità viscerale** (circonferenza vita >94cm nei maschi, >80 cm nelle donne) in cui vengono riscontrate almeno due delle seguenti condizioni: **ipertensione** arteriosa (>130/85 mmHg), insulina-resistenza o **alterato metabolismo glicidico** (DM2, IGT, IFG), dislipidemia (**HDL-c** <40 mg/dl nel maschio, <50 mg/dl nella donna – **ipertrigliceridemia** >150 mg/dl). L'associazione suddetta di questi fattori di rischio riguarda circa il 20% della popolazione italiana e aumenta la probabilità di sviluppare patologie cardiovascolari e metaboliche, con conseguente aterosclerosi e danni d'organo.

Il medico di famiglia, unitamente all'infermiere del territorio, è il professionista più indicato a individuare soggetti a rischio di sviluppo di SM nella popolazione e a proporre counselling, follow up, prevenzione e trattamento per intervenire tempestivamente e anticipare condizioni morbose così individualmente ed epidemiologicamente rilevanti.

Lo screening dei pazienti a rischio per SM e per le sue complicanze è indicato in persone con fattori di rischio (quali BMI elevato, familiarità per SM, sedentarietà, ipertensione, dislipidemia, macrosomia o DMG, PCOS, alterato metabolismo glicidico) e, se negativo, viene ripetuto ogni 3 anni (annualmente se presente pre-diabete), ponendo l'attenzione sulle indicazioni di corretto stile di vita. Nel caso in cui venga fatta diagnosi di SM, è mandativo calcolare il rischio cardiovascolare a 10 anni e intervenire sul lifestyle e farmacologicamente:



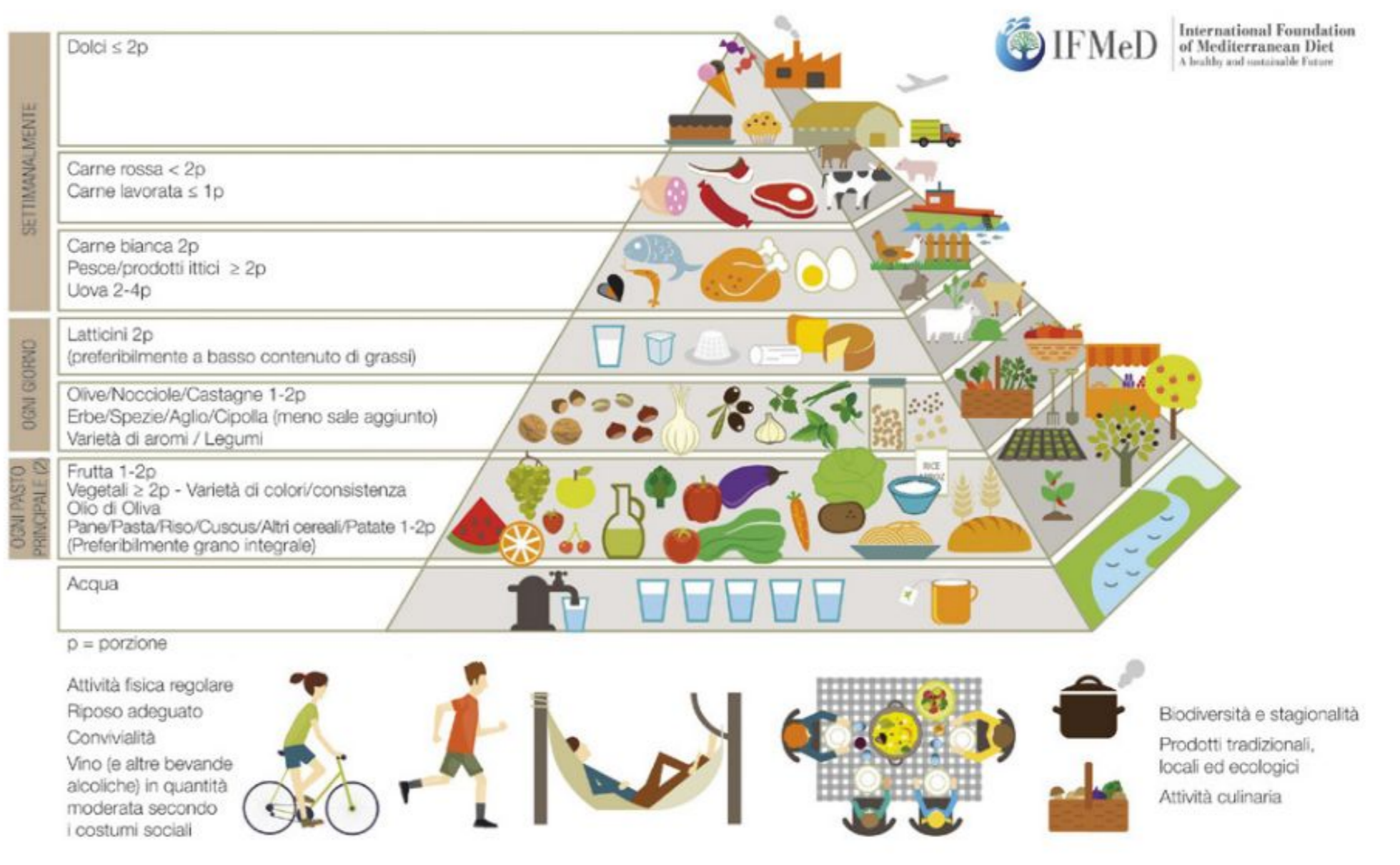
| | | |
|---|----|---|
| It is recommended to <u>reduce sedentary time</u> to engage in at least light activity throughout the day to reduce all-cause and CV mortality and morbidity. ³⁷⁵⁻³⁷⁷ | I | B |
| <u>Performing resistance exercise</u> , in addition to aerobic activity, is recommended on 2 or more days per week to reduce all-cause mortality. ^{378,379} | I | B |
| It is recommended to adopt a <u>Mediterranean</u> or similar diet to lower risk of CVD. ^{403,404} | I | A |
| It is recommended to replace saturated with unsaturated fats to lower the risk of CVD. ⁴⁰⁵⁻⁴⁰⁹ | I | A |
| It is recommended to reduce salt intake to lower BP and risk of CVD. ⁴¹⁰ | I | A |
| It is recommended to choose a more plant-based food pattern, rich in fibre, that includes whole grains, fruits, vegetables, pulses, and nuts. ^{411,412} | I | B |
| It is recommended to restrict alcohol consumption to a maximum of 100 g per week. ⁴¹³⁻⁴¹⁵ | I | B |
| It is recommended to eat fish, preferably fatty, at least once a week and restrict (processed) meat. ^{406,416-418} | I | B |
| It is recommended to restrict free sugar consumption, in particular sugar-sweetened beverages, to a maximum of 10% of energy intake. ^{419,420} | I | B |
| It is recommended that a <u>high-intensity statin</u> is prescribed up to the highest tolerated dose to reach the LDL-C goals set for the specific risk group. ^{21,520,521} | I | A |
| If the goals are not achieved with the maximum tolerated dose of a statin, <u>combination with ezetimibe</u> is recommended. ⁵¹⁵ | I | B |
| For primary prevention patients at very high risk, but without FH, if the LDL-C goal is not achieved on a maximum tolerated dose of a statin and ezetimibe, <u>combination therapy including a PCSK9 inhibitor</u> may be considered. | Ib | C |

It is recommended for adults of all ages to strive for at least 150-300 min a week of moderate-intensity or 75-150 min a week of vigorous-intensity aerobic PA, or an equivalent combination thereof, to reduce all-cause mortality, CV mortality, and morbidity.^{771,372}

I A

All smoking of tobacco should be stopped, as tobacco use is strongly and independently causal of ASCVD.^{487,488}

I A



Follow up:

- ogni 6 mesi: pressione (target <140/90; 130/80 in pz <70 anni) e circonferenza vita (target <94cm M, <80cm F, con calo ponderale >5%/anno),
- se DM: metformina 500 bid → controllo a 2 settimane di glicemia a digiuno, HbA1c → metformina 1000 bid → controllo a 3 mesi, poi ogni 6, poi annualmente (indagando anche microalbuminuria, creatinina, elettroliti, profilo lipidico, funzionalità epatica, ecg, fundus oculi) con target **HbA1c<7%** (<6,5% in pazienti con diagnosi recente e assenza di comorbidità),
- a 3 mesi, poi ogni 6, poi annualmente: TG, HDL-c, LDL-c, colesterolo, con target **TG <150 mg/dl, HDL >40(M) – 50(F) mg/dl, LDL <130/100/70/55 mg/dl** a seconda dei fdr associati.

| | | |
|---|----|---|
| It is recommended that the preferred combinations include a <u>RAS blocker</u> (i.e. an ACE inhibitor or ARB) with a <u>CCB or diuretic</u> , but other combinations of the five major classes can be used (ACE inhibitor, ARB, beta-blocker, CCB, thiazide/thiazide-like diuretic). ⁵⁶⁶⁻⁵⁶⁹ | I | A |
| It is recommended, if BP remains uncontrolled with a two-drug combination, that treatment be increased to a three-drug combination, usually a <u>RAS blocker with a CCB and a diuretic</u> , preferably as a single-pill combination. ^{563,570,571} | I | A |
| It is recommended, if BP is not controlled by a three-drug combination, that treatment should be increased by the addition of <u>spironolactone</u> , or if not tolerated, other diuretics such as amiloride or higher doses of other diuretics, an alpha-blocker or beta-blocker, or clonidine. ^{555,572-574} | I | B |
| <u>Metformin</u> is recommended as first-line therapy, following evaluation of renal function, in the majority of patients without previous ASCVD, CKD, or HF. ⁵⁸⁹ | I | B |
| In patients with type 2 DM and TOD, ⁵ the use of an <u>SGLT2 inhibitor or GLP-1RA</u> with proven outcome benefits may be considered to reduce future CV and total mortality. ⁵⁹⁴⁻⁵⁹⁷ | Ib | B |
| In patients with type 2 DM and CKD, the use of an <u>SGLT2 inhibitor</u> is recommended to improve ASCVD and/or cardiorenal outcomes. ^{598,599} | I | A |
| <u>Statin treatment is recommended</u> as the first drug of choice for reducing CVD risk in high-risk individuals with hypertriglyceridaemia [triglycerides >2.3 mmol/L (200 mg/dL)]. ⁵³³ | I | A |
| In patients taking statins who are at LDL-C goal with triglycerides >2.3 mmol/L (200 mg/dL), <u>fenofibrate or bezafibrate</u> may be considered. ⁵³⁴⁻⁵³⁶ | Ib | B |

Per quanto riguarda lo screening del danno d'organo:

- **microalbuminuria** (30-300 mg/24h o 20-200 microgrammi/min, trattabile con ACE-I o antagonisti AT-II) → danno renale
- **IMT >0,9mm** (ispessimento medio intinale a livello carotideo, aortico, femorale misurato tramite eco color doppler, da trattare con cardioaspirina e lacidipina) → danno cerebrovascolare, AOCF.
- **Ipertrofia ventricolare sinistra** (da valutare con ecocardiografia e stabilizzare tramite mantenimento della pressione in range) → insufficienza cardiaca (RCV maggiormente aumentato se concentrica).

BIBLIOGRAFIA

Arnett, D. K., Blumenthal, R. S., Albert, M. A., Buroker, A. B., Goldberger, Z. D., Hahn, E. J., Himmelfarb, C. D., Khera, A., Lloyd-Jones, D. M., McEvoy, J. W., Michos, E. D., Miedema, M. D., Muñoz, D., Smith, S. C., Virani, S. S., Williams, K. A., Yeboah, J., & Ziaeian, B. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation* - Bassi, N., Karagodin, I., Wang, S., Vassallo, P., Priyanath, A., Massaro, E., & Stone, N. J. (2014). Lifestyle Modification for Metabolic Syndrome: A Systematic Review. *The American Journal of Medicine* - Chen, Y., Chen, Z., Pan, L., Ma, Z., Zhang, H., Li, X., & Li, X. (2023). Effect of moderate and vigorous aerobic exercise on incident diabetes in adults with obesity. *JAMA Internal Medicine* - Chobanian, A. V. (2003). The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *JAMA* - Frank L J Visseren, François Mach, Yvo M Smulders, David Carballo, Konstantinos C Koskinas, Maria Böck, Athanasios Benetos, Alessandro Biffi, José-Manuel Boavida, Davide Capodanno (2021) ESC Guidelines on cardiovascular disease prevention in clinical practice. *European Heart Journal*, Volume 42, Issue 34 - Cuspidi, C., Meani, S., Fusi, V., Severgnini, B., Valerio, C., Catini, E., Leonetti, G., Magrini, F., & Zanchetti, A. (2004). Metabolic syndrome and target organ damage in untreated essential hypertensives. *Journal of Hypertension* - Garg, A. (1996). Insulin resistance in the pathogenesis of dyslipidemia. *Diabetes Care* - Giorgio Sesti, Francesco Cosentino, Crepalidi, Stefano Del Prato, Giuseppe Mancina, Enzo Manzato, Alessandro Menotti, Antonio Tiengo, Massimo Volpe, Augusto Zanielli (2006) – Sisprec - Sindrome Metabolica: Diagnosi e Gestione Clinica - Hulthe, J., Bokemark, L., Wikstrand, J., & Fagerberg, B. (2000). The metabolic syndrome, LDL particle size, and atherosclerosis. *Arteriosclerosis, Thrombosis, and Vascular Biology* - Lee, S. W., Son, J. Y., Kim, J. M., Hwang, S. S., Han, J. S., & Heo, N. J. (2017). Body fat distribution is more predictive of all-cause mortality than overall adiposity. *Diabetes, Obesity and Metabolism* - Lorenzo, C., Okoloise, M., Williams, K., Stern, M. P., & Haffner, S. M. (2003). The metabolic syndrome as predictor of type 2 diabetes. *Diabetes Care* - Lung, (1998). Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults: The evidence report. In *PsycEXTRA Dataset* - Mancini, J., Fillion, K. B., Atallah, R., & Eisenberg, M. J. (2016). Systematic Review of the Mediterranean Diet for Long-Term Weight Loss. *The American Journal of Medicine* - Rosenzweig, J. L., Bakris, G. L., Berglund, L., Hivert, M., Horton, E. S., Kalyani, R. R., Murad, M. H., & Vergès, B. (2019). Primary Prevention of ASCVD and T2DM in patients at Metabolic Risk: An Endocrine Society* Clinical Practice Guideline. *The Journal of Clinical Endocrinology and Metabolism*