

Editorial**Tsunami of Metabolic Syndrome (MetS)**Rizwan Zafar¹doi: <https://doi.org/10.51127/JAMDCV06I04editorial>**How to cite this:**

Zafar R. Tsunami of Metabolic Syndrome (MetS) JAMDC. 2024;6(4): 127-129

doi: <https://doi.org/10.51127/JAMDCV06I04editorial>

Metabolic syndrome is a cluster of different diseases comprising obesity, dyslipidemia, hypertension and insulin resistance. It is also designated as Reaven syndrome or Syndrome X. Patients fulfilling the criteria of metabolic syndrome are prone to develop type 2 diabetes mellitus, cardiovascular disease, and premature death.¹

Metabolic syndrome is a global epidemic and has emerged as a formidable challenge for clinicians & research workers worldwide. According to International Diabetic Federation (IDF), the prevalence of MetS is 34.6 percent in Eastern Mediterranean region, 33.4 percent in USA, 31.5 percent in European region and 28.1 percent in South East Asia.² Even more alarming fact is that, the prevalence of many risk factors associated with cardiovascular disease & MetS will increase over the next 30 years in America and globally.³

The tsunami of Metabolic syndrome and its components hits Pakistan hard. Pakistan ranks number three in the world in terms of Diabetic population, and number 1 regarding comparative prevalence rate of diabetic patients.⁴ Pakistan stands at number eight among most obese nations in world.⁵ Every third Pakistani after age of 45 years suffers from “The Silent Killer”, hypertension. Overall 34% Pakistanis are hypertensive and prevalence increases with age. Metabolic syndrome is diagnosed if anyone meets any three out of these five

following criteria:

1. Waist circumference more than 102 cm (40 in) in men and more than 88 cm (35 in) in women reflecting abdominal obesity
2. Serum triglycerides more than 150 mg/dL (1.7 mmol/L) or if patient is taking medicines to decrease triglycerides
3. Serum high-density lipoprotein (HDL) cholesterol less than 40 mg/dL (1 mmol/L) in men and <50 mg/dL (1.3 mmol/L) in women or if patient is taking medicines to manage low HDL cholesterol
4. Blood pressure more than 130/85 mmHg or if patient is on antihypertensive drugs
5. Fasting blood glucose is more than 100 mg/dL (5.6 mmol/L) or if patient is on antidiabetic drugs.⁴

Visceral obesity plays a key role in pathogenesis of MetS. It leads to insulin resistance. Various factors involved in pathogenesis include, genetic factors, excessive dietary intake, lack of exercise, IL-1, IL-6, IL-18, Resistin, TNF-alpha, CRP & Adiponectin (an anti-inflammatory cytokine reduced in metabolic syndrome). MetS is associated with multiple other diseases like, (but not limited to) fatty liver, cirrhotic liver, hepatic malignancy, cholangiocarcinoma, Polycystic ovarian syndrome, Chronic kidney disease, sleep disorders, stress & depression, dementia, osteoarthritis, fertility issues, impaired immunity and infections.⁵ What needs to be done to fight against tsunami of metabolic syndrome is to educate public about preventive and life style modifications.

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“Prevention is better than cure”. One of most fundamental strategy of lifestyle modifications is to reduce weight. People need to be informed to keep their weight within normal BMI for Asian population (18.5 to 22.9 kg/m²). Reduction in weight of 3–7% from baseline value has beneficial effects on diabetic and cardiovascular outcomes. After achieving weight reduction, it is even more important to maintain it on long term basis. More than 10% of weight loss on long term basis leads to significant metabolic health benefits. We can expand “Ramadan Fasting” benefits to whole year by observing fasts three times per month for whole year to gain health related as well as religious benefits.⁵

Dietary instructions should emphasize intake of predominantly foods in their natural state and without addition of chemicals or industrial treatment (unprocessed foods). One should avoid sweet, carbonated cola and fizzy drinks because they are source of extra calories and lead to weight gain. Similarly intake of junk food, nehari, (as they contain saturated fats), roghni nan should be restricted in diet. Diet, rich in vegetables, fiber (25 to 30 grams per day), low glycemic index foods, nuts, whole grains, olive oil, low fat dairy products without added sugar, lean fish & chicken are safer options.

Physical activity, for example, 30 minutes of brisk walk is recommended five times per week. It is worth noting that Salah (Namaz) is one of best forms of physical activity and exercise in world. There are movements at joints, gentle contraction and relaxation of muscles and smooth postural changes of body at different angles during Namaz. These simple and harmonious physical activities during namaz are doable by both genders and in all ages. (zurairifm.wordpress.com/2009). The recommendation by American Heart Association of brisk walk of 30 minutes 5

times per week can be easily accomplished by walking to nearby local mosque for prayers 5 times a day.

Other life style modifications include quitting smoking, taking 3/4th of meals in breakfast, lunch and dinner, taking water before meals, taking early dinner, having “uninterrupted” 6 to preferably 8 hours sleep, going to bed early and getting up early in the morning. These life style interventions reduce the health hazards associated with metabolic syndrome and people may be saved not only from the costs of tests and treatment but also from enormous expense of angioplasties, dialysis, and CABG.

We also need to adopt latest digital health approaches like mobile apps, web & AI based data clouds, telehealth services, to prevent cardiometabolic syndrome.⁷

REFERENCES

1. Saklayen MG. The global epidemic of the metabolic syndrome. *Current hypertension reports*. 2018 Feb;20(2):1-8. <https://doi.org/10.1007/s11906-018-0812-z>.
2. Noubiap JJ, Nansseu JR, Lontchi-Yimagou E, Nkeck JR, Nyaga UF, Ngouo AT, Tounouga DN, Tianyi FL, Foka AJ, Ndoadoumgué AL, Bigna JJ. Geographic distribution of metabolic syndrome and its components in the general adult population: A meta-analysis of global data from 28 million individuals. *Diabetes research and clinical practice*. 2022 Jun 1; 188:109924. <https://doi.org/10.1016/j.diabres.2022.109924>.
3. Maddox KJ, Elkind MS, Aparicio HJ, Commodore-Mensah Y, de Ferranti SD, Dowd WN, Hernandez AF, Khavjou O, Michos ED, Palaniappan L, Penko J. Forecasting the burden of cardiovascular disease and stroke in the United States through 2050 prevalence of risk factors and disease: a presidential advisory from the American Heart Association. *Circulation*.

- 2024 Jun 4;150:e65-88. doi: 10.1161/CIR.0000000000001256.
4. Magliano DJ, Boyko EJ, Atlas ID. COVID-19 and diabetes. In IDF DIABETES ATLAS [Internet]. 10th edition 2021. IDF.
 5. Raza Sa, Mirza Am, Hafizullah M, Zarkoon Ak, Siddiqui M, Sheikh A, Akhtar F, Aziz Hb, Khan Ka, Hameed M, Hasan I. Metabesity guideline: a Pakistan perspective. JPMA. 2021 May 1;71(5): S17-33.
 6. League PH. 3rd National Hypertension Guideline: For the prevention, detection, evaluation & management of hypertension. PHL. 2018.
 7. Pacific tl. addressing the epilepsy treatment gap in low resource settings. The lancet regional health. Western pacific. 2024 April 30; 45:101081. doi: 10.1016/j.lanwpc.2024.101081