CKM Syndrome

Why in News?

World Diabetes Day is observed on November 14.

What is CKM syndrome?

- **CKM Syndrome** – It is a complex disorder made up of cardiovascular disease, kidney disease, obesity and Type 2 diabetes.
- Obesity and Type 2 diabetes are metabolic conditions and each of the four conditions in CKM syndrome can lead to or worsen one another.
- **Symptoms** - CKM syndrome symptoms may include any of the issues you get with the four conditions that make up cardiovascular-kidney-metabolic syndrome.
    - Chest pain.
    - Shortness of breath.
    - Syncope (passing out).
    - Swelling in your legs, feet, hands or ankles.
    - Pain in your legs while walking.
    - Tiredness.
    - Loss of appetite or an increase in appetite.
    - The need to pee more often.
    - Dry skin.
    - Sleep apnea.
    - Gout.
- **Insidious Growth** – It is often marked by a gradual rise in body weight and waist circumference that soon escalates into obesity, setting off a chain reaction in the body.
- **Premature Death Vulnerability** - Major organs such as the heart, the kidneys, liver and blood vessels bear the brunt, leaving those affected vulnerable to premature death.
- **NCD Burden** – As per Global Burden of Disease (GBD), the burden of non-communicable diseases (NCDs) account for 69% of premature deaths and 68% of years lost to disability.
- **India NCD Burden** – As per National Family Health Survey (2019-21)
    - Diabetes prevalence - 16.1%
    - Obesity - 40.3%
    - Hypertension — 24% of men and 21% of women

- **Tamilnadu NCD Burden** - As per 2020 Tamil Nadu STEPS survey,
    - Overweight - 28.5%
    - Obesity - 11.4%
    - Hypertension - 33.9%
    - Diabetes - 17.6%

The WHO STEPwise approach to NCD risk factor surveillance (STEPS) is a simple, standardized method for collecting, analysing and disseminating data on key NCD risk factors in countries.

YOUNG & UNHEALTHY

	1-4 yrs	5-9 yrs	10-19 yrs
DISEASES OF OVERNUTRITION (%)			
Overweight		3.7	4.9
Obesity		1.3	1.1
Pre-diabetes		10.3	10.4
Diabetes		1.2	0.6
Hypertension			4.9
High total cholesterol		3.2	3.7
DISEASES OF UNDERNUTRITION (%)			
Anaemia	40.6	23.5	28.4
MICRONUTRIENT DEFICIENCIES (%)			
Iron	32.1	17.0	21.5
Vitamin D	13.7	18.2	23.9
Vitamin A	17.5	21.5	15.6
Vitamin B12	13.8	17.2	30.9
Zinc	19.0	16.8	31.7

Source: ICMR-National Institute of Nutrition Report on Dietary Guidelines for Indians

What are the reasons for high prevalence of CKM ?

- **Influence of Globalisation** - Long work hours, night shifts, ignoring our need for rest, idolising workaholism.
- **Unhealthy Lifestyle** - Long working hours and frequent night shifts lead to brain fatigue and reduced secretion of happy hormones, often counterbalanced by eating super-palatable foods which are rich in salt, sugar and butter.
- **Extended Work Hours** - It disrupts hormone levels, with cortisol (the "stress hormone") driving unhealthy carbohydrate and lipid metabolism.
- **Poor Glycemic Control** - Distribution of rice, a high glycemic food, through the Public Distribution System (PDS), has contributed to obesity.
- **Poverty** - Low socioeconomic status is associated with use of tobacco and alcohol, physical inactivity, and poor diet.

What are the challenges?

- **Lack of Holistic Risk Assessment** – Current health management models miss key opportunities for optimal, holistic risk assessment.
- **Fragmented Care** - Patients with multiple affected organs see separate specialists for each issue, leading to, drug interactions, repeated visits, and, ultimately, a loss in wages and productivity.
- **Inadequate Management** - Less than one-fourth of the affected individuals receives any measure of controlling their blood pressure.
- **Low Awareness** – Lack of awareness among people about the causes, impacts of NCDs and unhealthy lifestyle practices.

What are the impacts?

- Current trends of rising obesity, diabetes, and hypertension rates threatens SDG Targets, health budget and the economy as a whole.

SDG Target 3.4 - By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

- **Premature Death** - In India, noncommunicable diseases (NCDs) account for approximately 64% of all deaths, adversely affecting not only people's health.
- **Economic Impact** – The economic loss attributed to NCDs (excluding mental health) in India is projected to reach US $3.55 trillion between 2012 and 2030.
- **Health Budget** - Coronary angioplasty and dialysis tops the list of claims under the Chief Minister's Comprehensive Health Insurance Scheme (CMCHIS) of Tamilnadu and Ayushman Bharat Health Insurance.
- **Household Financial Instability** – NCD associated mortality and morbidity affects leads to loss of income and increased out-of-pocket expenses for treatment and care.

What are the government measures in tackling NCD?

- **NPCDCS** - National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) is being implemented in all States across the country with the focus on
  - Strengthening of infrastructure
  - Development of human resource
  - Emphasis on health promotion
  - Early diagnosis, management and referral.

Under NP-NCD, 724 District NCD Clinics, 210 Cardiac Care Centre, 326 District Day Care Centres and 6110 Community Health Centres NCD Clinics have been set up.

- **PBS** - Population based prevention and control, screening and management initiative for common NCDs is being implemented under Health Wellness Centre in National Health Mission (NHM).
- **National NCD Portal** – It provides for implementation of PBS for prevention, control, Screening and management of the population-based screening of common NCDs.
- **National Multi-Sectoral Action Plan for Prevention And Control of Common NCDs** – It offers a road map and menu of policy options to guide multi-sectoral efforts involving other Ministries/Departments towards attaining the NCD targets.
- **Whole of Society Approach** - India is proceeding towards the illness to wellness concept with the "Whole of Government and Whole of Society" approach.
- **Digital Health Technologies** - Telemedicine, mobile health applications, and data analytics can enhance patient engagement, improve access to care, and facilitate monitoring and evaluation.
- **Ayushman Bharat Health Account Number (ABHA-ID)** - It is being maintained and tracking of every single individual with NCDs is done through National NCD Portal.
- **National Health Policy 2017** - It stipulates the target of relative reduction of 15% in tobacco use by 2020 and of 30 % by 2025, from the baseline levels of 2010.
- **Fit India Movement** – It is a nation-wide movement in India to encourage people to remain healthy and fit by including physical activities and sports in their daily lives.
- **Eat Right Movement** – It was launched by FSSAI , to improve public health in India and combat negative nutritional trends to fight lifestyle diseases.
- **ICMR Dietary Guidelines** – It provides 17 dietary guidelines to meet the requirements of essential nutrients and prevent non-communicable diseases (NCDs) such as obesity and diabetes.
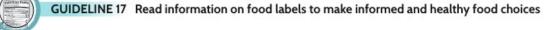
ICMR DIETARY GUIDELINES

GUIDELINE 1 Eat a variety of foods to ensure a balanced diet

GUIDELINE 2 Ensure provision of extra food and healthcare during pregnancy and lactation

GUIDELINE 3 Ensure exclusive breastfeeding for the first six months and continue breastfeeding till two years and beyond

GUIDELINE 4 Start feeding homemade semi-solid complementary foods to the infant soon after six months of age

GUIDELINE 5 Ensure adequate and appropriate diets for children and adolescents both in health and sickness

GUIDELINE 6 Eat plenty of vegetables and legumes

GUIDELINE 7 Use oils/fats in moderation; choose a variety of oil seeds, nuts, nutricereals and legumes to meet daily needs of fats and essential fatty acids (EFA)

GUIDELINE 8 Obtain good quality proteins and essential amino acids (EAA) through appropriate combination of foods and avoid protein supplements to build muscle mass

GUIDELINE 9 Adopt a healthy lifestyle to prevent abdominal obesity, overweight and overall obesity

GUIDELINE 10 Be physically active and exercise regularly to maintain good health

GUIDELINE 11 Restrict salt intake

GUIDELINE 12 Consume safe and clean foods

GUIDELINE 13 Adopt appropriate pre-cooking and cooking methods

GUIDELINE 14 Drink adequate quantity of water

GUIDELINE 15 Minimize the consumption of high fat, sugar, salt (HFSS) and ultra-processed foods (UPFs)

GUIDELINE 16 Include nutrient-rich foods in the diets of the elderly for health and wellness

GUIDELINE 17 Read information on food labels to make informed and healthy food choices

What lies ahead?

- Integrated care for CKM , shifting from segmented care to unified, simultaneous management of risk factors.
- Rather than isolating diabetes, hypertension, heart disease, and kidney disease, they should be viewed as symptoms of a broader metabolic condition.
- An integrated clinic could address these issues, with a multidisciplinary team of a diabetologist, cardiologist, nephrologist, dietician and physiotherapist working together.
- Regular weight and obesity screenings ff preschool through secondary schoolchildren to identify high-risk individuals early.
- Partial replacement of rice in the PDS with millets to diversify the diet and reduce the high glycemic food.
- Regulation of work hours and shifts is as essential a public health measure as any medical intervention.
- Create awareness among people about the necessity of healthy diets.

Reference

[The Hindu | CKM Syndrome](#)