

NCD Prevention Control

Family Doctor Key

Strengthen Family Physicians

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Past National President API

Past Commonwealth President, CMA , UK

Founder Chairman, CHPA, UK

Dr. BC Roy National Awardee

Dr .S. Arulrhaj Institutions of Medical Services & Sciences - ARIMS



HEALTH SCENARIO TODAY

- 140.76 crore population.
- 70% Villages.
- Health Care 30 - 40%
- 79% Safe drinking water.
- 24% Adequate sanitation
- Infections still High
- Life Style Diseases Rising

HEALTH NOT FUNDAMENTAL RIGHT

GENERAL PRACTITIONER

- “Lancet” in the 1820s- the editor Wakley (a GP) used this term
- First applied in the 19th Century
- Precursors:
 - Country Surgeon
 - Apothecary
- 2 terms merged to “General Practitioner”
- A GENERAL PRCTITIONER (GP) is a medical practitioner who treats **acute** and **chronic illnesses** and **provides preventive care** and **health education** to all ages and all sexes .
- He has skills in treating people with multiple health issues and comorbidities, individual, family and community
- Classic GP is knowledgeable yet compassionate

FAMILY MEDICINE IS THE ACADEMIC NAME OF THE DISCIPLINE

Ann Lech, BMJ

FAMILY DOCTOR

- They will attend to their patients in consulting rooms and in their homes and sometimes in a clinic or a hospital.
- They will attend to house calls and night calls.
- General Practitioners will make an **initial decision** on every problem presented to them as doctors. When they are aware that the management of a patient is beyond their ability, It is their duty to **refer the patient** to experts and maintain a supervisory role
- They will undertake the **continuing management** of their patients with chronic, recurrent and terminal illnesses. They will keep medical and other relevant records on their practice population
- **Prolonged care** means that they can use repeated opportunities to gather information at a pace appropriate to each patient and build up a relationship of trust which they can use professionally.

FAMILY PHYSICIANS PROVIDE

- 1 Primary Care
- 2 Comprehensive Care
- 3 Continuing Care
- 4 Total Patient Care
- 5 Family Care
- 6 Preventive Care
- 7 Lifestyle Care

GP Association of Greater Bombay

SKILLS OF GENERAL PRACTICE

- **The Medical Skills required in Family Practice include**
 - 1. Basic Clinical Skills**
 - 2. Interviewing Skills**
 - 3. Diagnostic Skills**
 - 4. Therapeutic Skills**
 - 5. Procedural Skills**
 - 6. Communication Skills**

UHC is Built on Primary Care

Tertiary Care cannot fulfill the Commitments of UHC.

What we need is Trained / Qualified Competent

Specialist Family Doctors

NCD – A GLOBAL PRIORITY

- Cancer, CVD, COPD, Diabetes
- Stroke, HTN, Obesity, Mental illness
- Tobacco use, unhealthy diet

Physical inactivity and Alcohol Harmful use

- Chronic disease causes 60% global death
 - Number one killer
- 41 million NCD deaths per year 2023
- 15% increase every decade
- Cardiovascular diseases account for most NCD deaths, or 17.9 million people annually, followed by cancers (9.3 million), respiratory diseases (4.1 million), and diabetes (1.5 million).
- 4 out of 5 in low and middle income countries
- South East Asia has projected to have more NCD death / more in youth
- NCD will cause 75% Death in 2030
- Of these 14 million can be prevented or delayed



WHO - NCD FACTSHEET2023

TARGET NCD DEATH OF 5.1% PER ANNUM

LIFE STYLE IS THE WAY WE LIVE

- Important diseases are type 2 diabetes, Hypertension, obesity, dyslipidemia, stroke, heart attack, COPD, Cancer.

WHO says

- Worldwide Diabetics 210 million.
Will double in 2030.
- In India 2023,
 - 101 million people with diabetes
 - 136 million people with prediabetes
 - 254 million had generalized obesity
 - 351 million had abdominal obesity

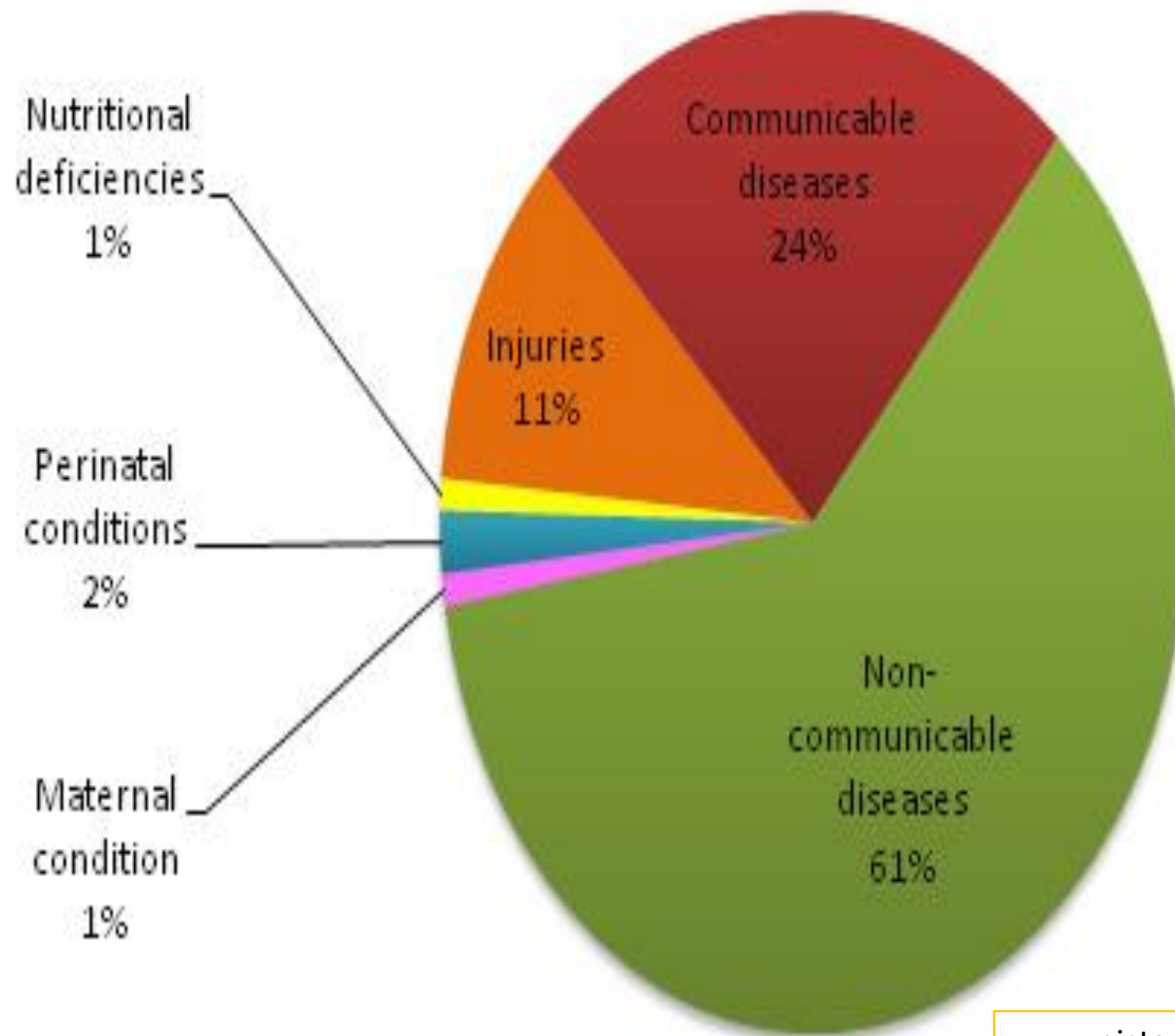


Diabetic capital of the world

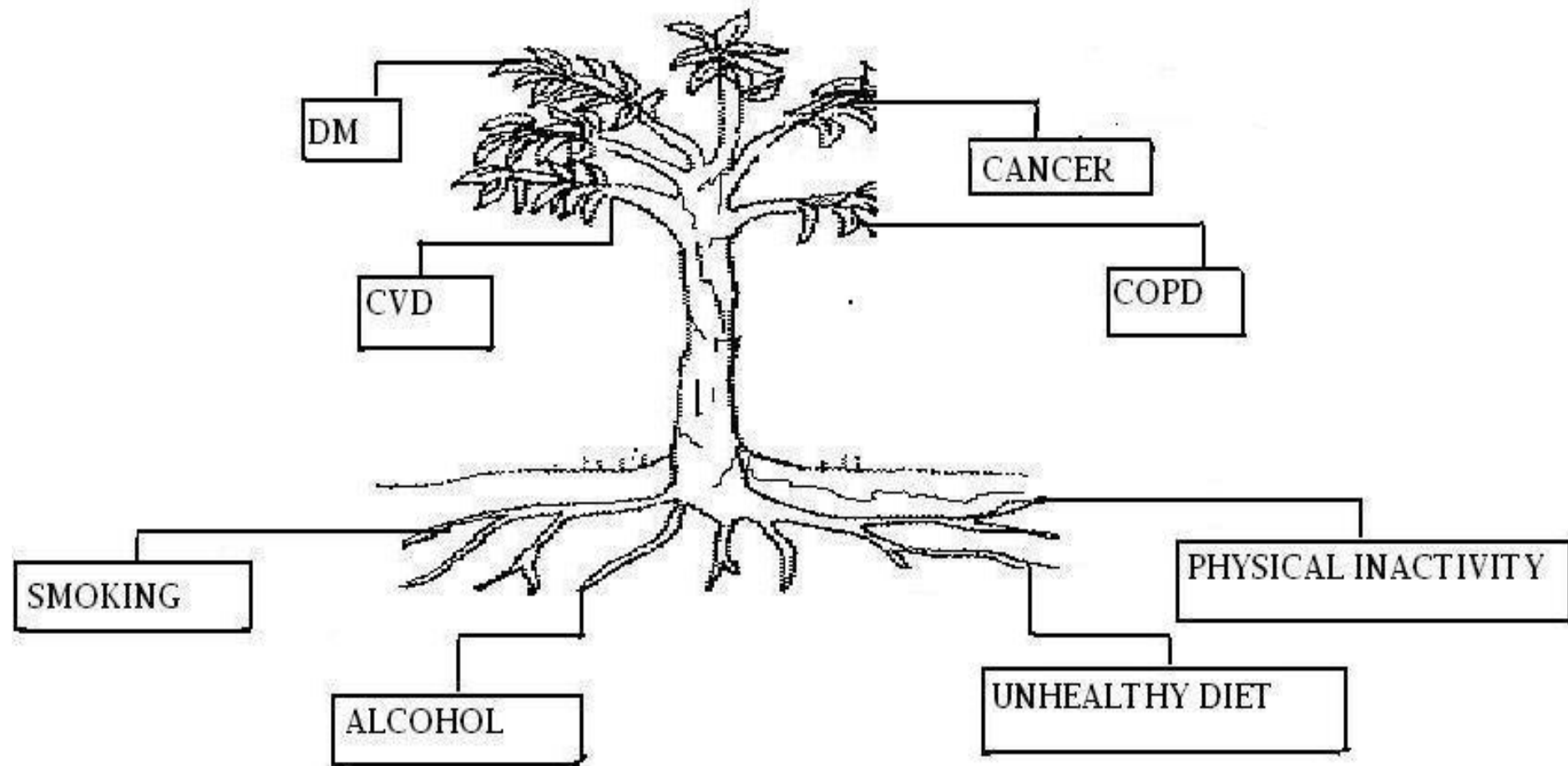
- 1/3rd of adults have HTN
- 315 million people had high blood pressure
- 50% of death from Stroke & MI in HTN

<https://www.thehindu.com/sci-tech/health/31-million-more-indians-became-diabetic-between-2019-2021-says-study/article66949970.ece#:~:text=New%20National%20estimates%20for%20diabetes,351%20million%20had%20abdominal%20obesity.>

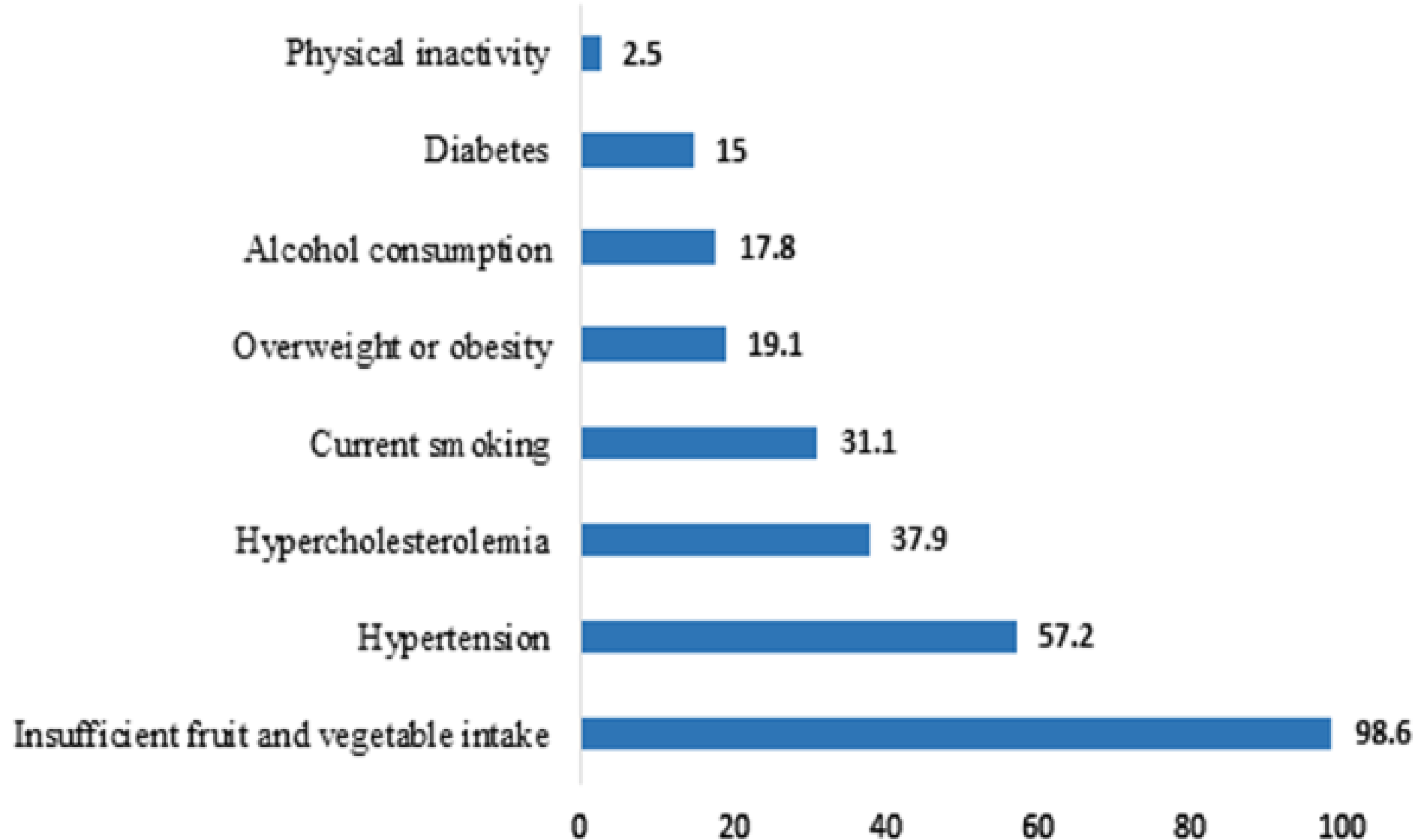
TV and Couch syndrome



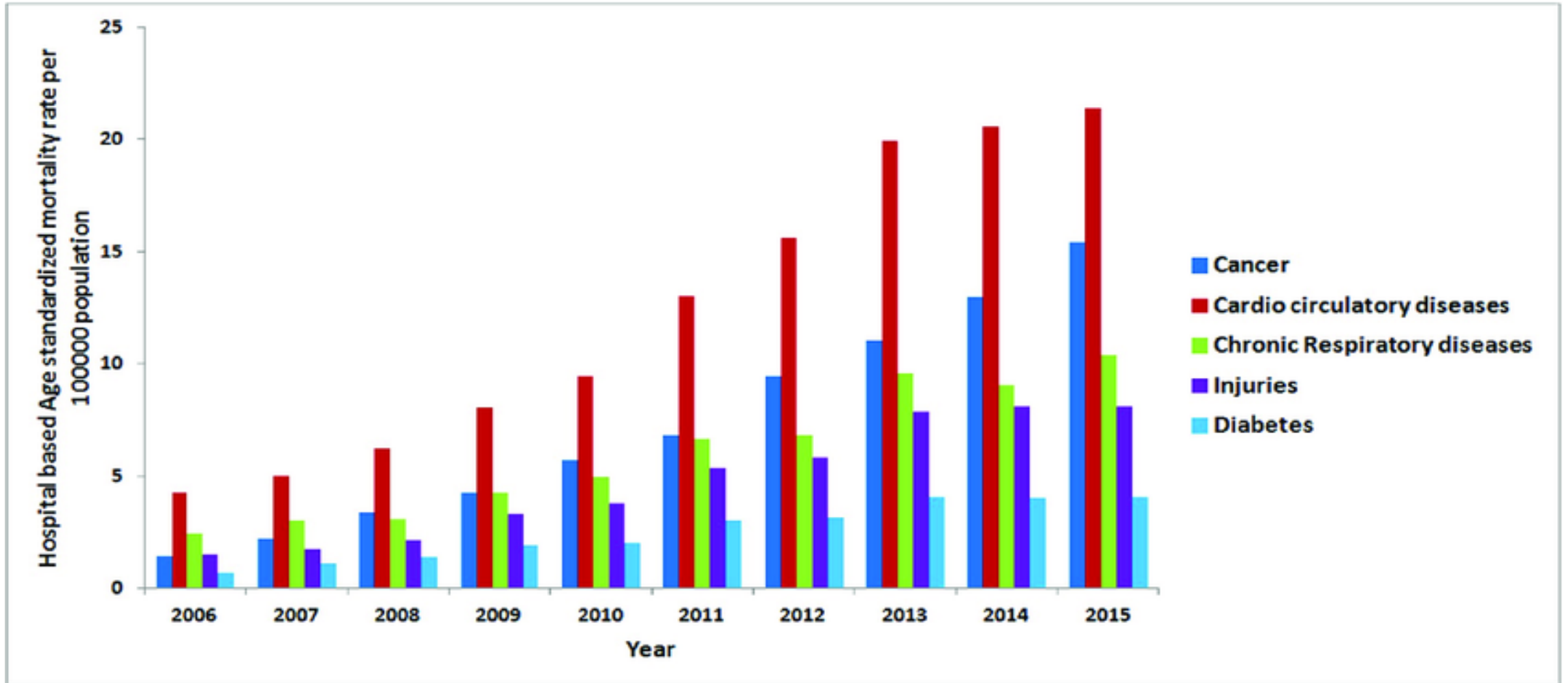
NON COMMUNICABLE DISEASES



Ranking of the eight non-communicable disease risk factors (%)



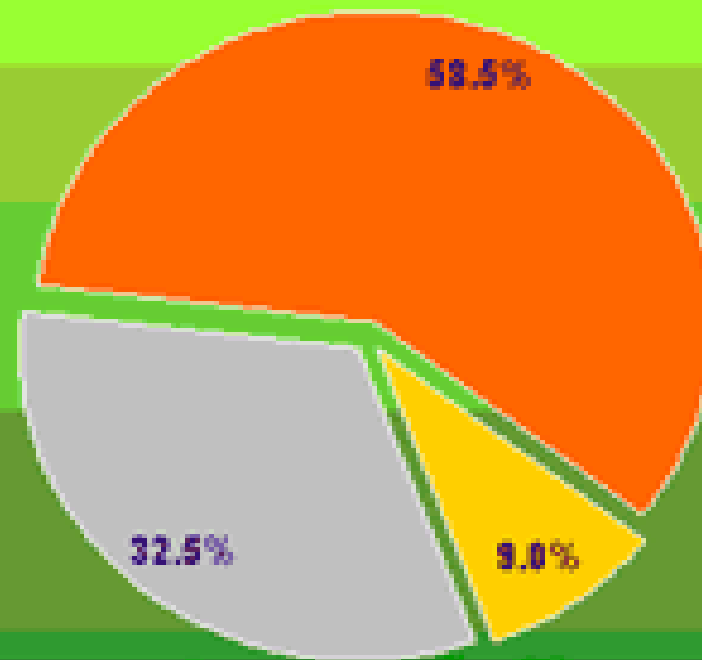
Impact of NCD on global health age standardized mortality rates



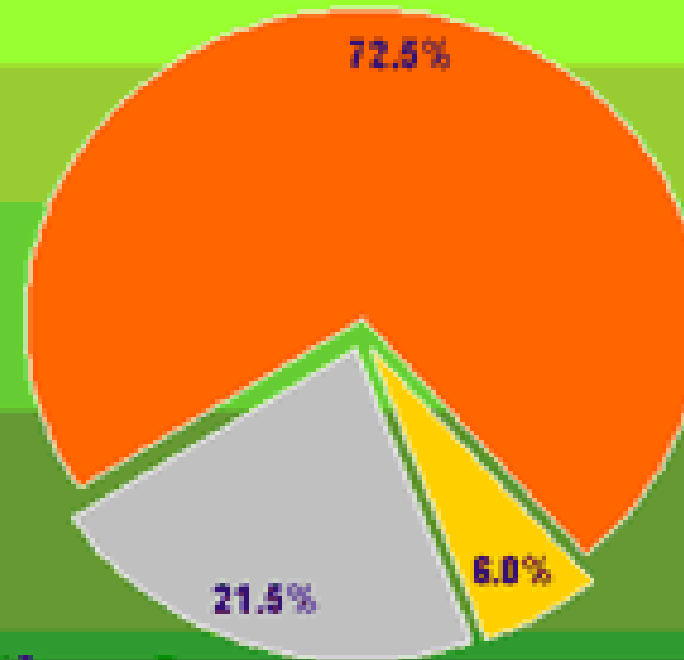
WORLD DEATHS BY MAJOR CAUSE

WHR, 2002

2001



2020



Communicable,
maternal & perinatal
nutritional deficiencies

Noncommunicable

Injuries

NCD CONTROL MDG ACHIEVEMENT

DIABETES CLUSTER

- **Types:**

Type1

Type2

MODY

GDM

LADA

Pre Diabetes

Markers of IR: Abd Obesity, PCOD, Neck, Axilla & Axilla
Hyperpigmentation

Genetic Markers could be detected.

Precision DM- TIR

TYPE 2 DIABETES

GLOBAL PUBLIC HEALTH CRISIS

- Disease of affluent→ poor
- ASIA is the epicenter of DM- 60% of world DM
- China has overtaken India.
- ASIANS develop at young age, at lower degree of obesity and at Higher rate for weight gain.
- OBESITY starts in Utero & manifests in School age
- Metabolically obese phenotype.

Asian women more GDM – children at risk

NCD-END RESULT

- Heart attack (AMI)
- Stroke
- Kidney failure
- Cancer-Lung, Liver, GIT
- Cirrhosis Liver – GI Bleed/ Coma
- Respiratory Failure
- Amputation
- Early Sudden Death

NCD Control

	Diabetes	Hypertension	CAD	COPD	Cancer
Diet	+	+	+	+	+
Lifestyle	+	+	+	+	+
Drugs	+	+	+	+	+
Monitoring	+	+	+	+	+
Complications	+	+	+	+	+
Interventions	+	+	+	+	+

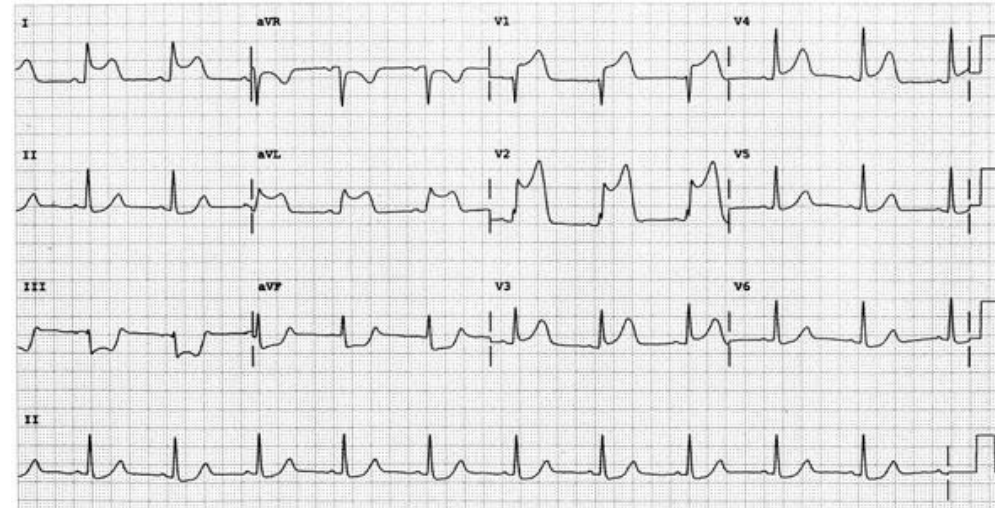
ACUTE CORONARY SYNDROME

- Incidence

- Men- 33.7 %
- Women- 13.7 %
- Diabetic-43 %

- Outcome

- MI-61%
- Arrhythmia-6%
- CHF-10%
- Cardiomyopathy-7%
- Sudden death-8%



Estimating the incidence of the acute coronary syndrome: data from a Danish cohort

[Eur J Cardiovasc Prev Rehabil.](#) 2007 Oct;14(5):608-14

The Clinical Spectrum of Acute Coronary Syndromes: Experience from a Major Center in Kerala

KJ Raihanathul Misiriya*, N Sudhayakumar**, S Abdul Khadar***, Raju George***, VL Jayaprakash†, **Joseph M Pappachan†.**

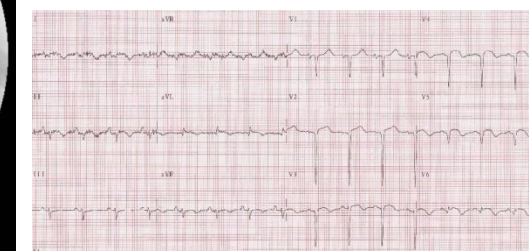
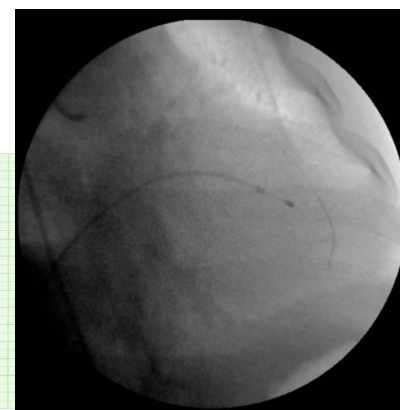
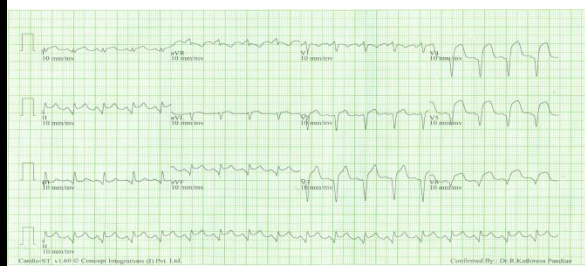
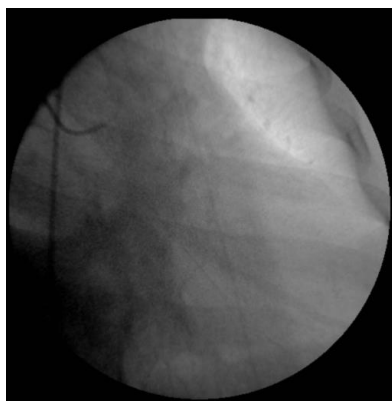
ACS- INTERVENTION

- Pharmacoinvasive
- Primary Coronary Intervention PCI
- Surgical Intervention- CABG



WHO NEEDS PCI?

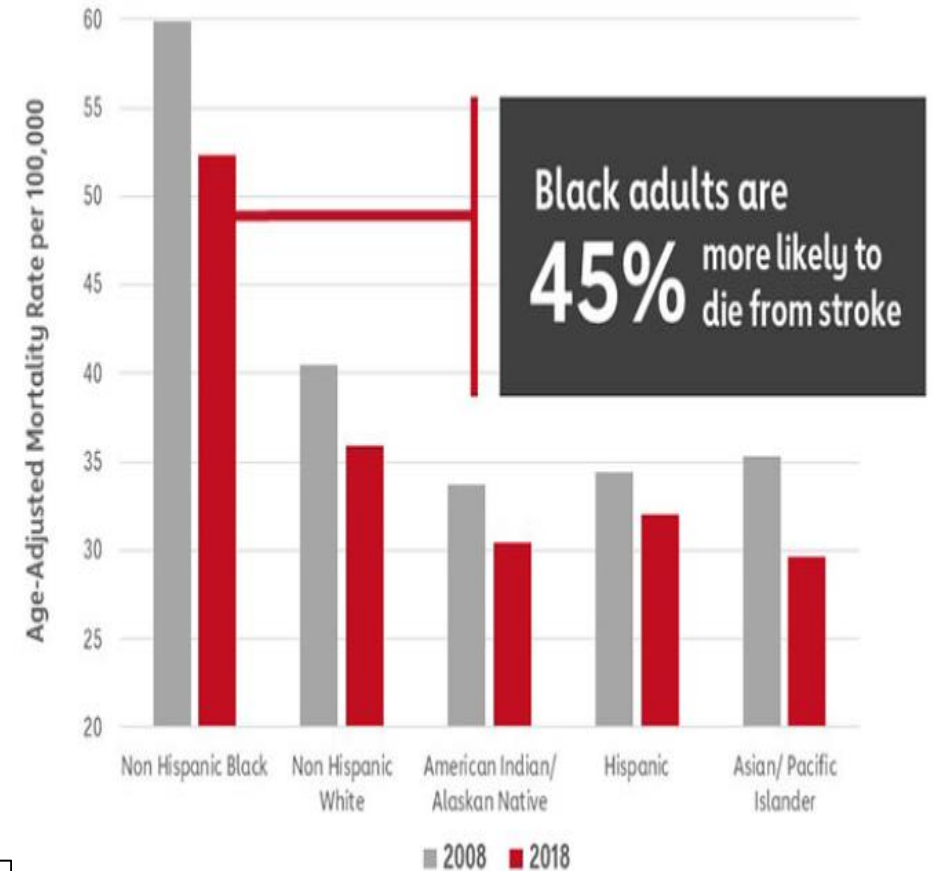
- Persistence chest pain after Thrombolysis
- Cardiogenic Shock
- Severe cardiac failure or pulmonary edema
- Patients presenting 12 hours after the onset of chest pain where thrombolysis is ineffective
- **PCI is the treatment of first choice in acute MI if readily available.** In PCI is not available Thrombolysis is equally effective if the presentation is early (< 3 hours of symptom onset)



Incidence And Prevalence Of Stroke

	Incidence	Prevalence
• World	9.0 million	30.7 million
• Africa	0.7	1.6
• Americas	0.9	4.8
• Eastern Mediterranean	0.4	1.1
• Europe	2.0	9.6
• South-East Asia	1.8	4.5
• Western Pacific	3.3	9.1

**12.6 million have moderate-severe disability,
8.9/12.6 million in low-mid income countries**



<https://www.heart.org/en/about-us/2024-health-equity-impact-goal/age-adjusted-total-stroke-mortality-rates-by-raceethnicity> - 2019

MODIFIABLE STROKE RISK FACTORS

Medical Conditions

- **Prior TIA or stroke**
- **Hypertension**
- **Cardiac disease**
- **Atrial fibrillation**
- **Hyperlipidemia**
- **Diabetes mellitus**
- **Carotid stenosis**
- **Elevated homocysteine**

Behaviours

- **Cigarette smoking**
- **Heavy alcohol use**
- **Physical inactivity**
- **Unhealthy diet**

THROMBOLYTIC THERAPY- INTRAVENOUS IV

- No bleeding in CT
- BP not very high
- No coma
- No recent MI
- Within Golden Hour
- Extended therapeutic window 4.5 hrs
- T-PA IV- 0.9 mg/kg IV-10% bolus & remainder over 1 hr
 - Incomplete canalization
 - bleeding risk
- TNK-Tenecteplase 0.1,0.2 & 0.4 mg/kg bolus
- DESMOTEPALASE- trials
- COMBINED GPIIB/IIIA INHIBITORS
- Need- CT
 - MRI-perfusion weighted / DWI
 - Transcranial Doppler
- Skills and experience

INTRAARTERIAL FIBRINOLYSIS : IA

- Needs more skill and Cath lab.
- Imaging studies & close monitoring

MECHANICAL RECANALISATION:

- Endovascular Thrombectomy
- Endovascular Thromboaspiration
- Augmented fibrinolysis by mechanical clot disruption

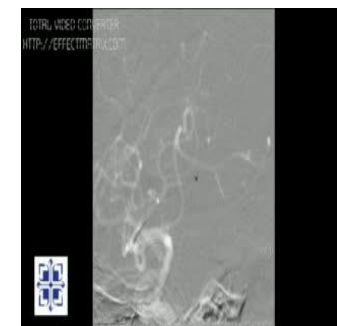
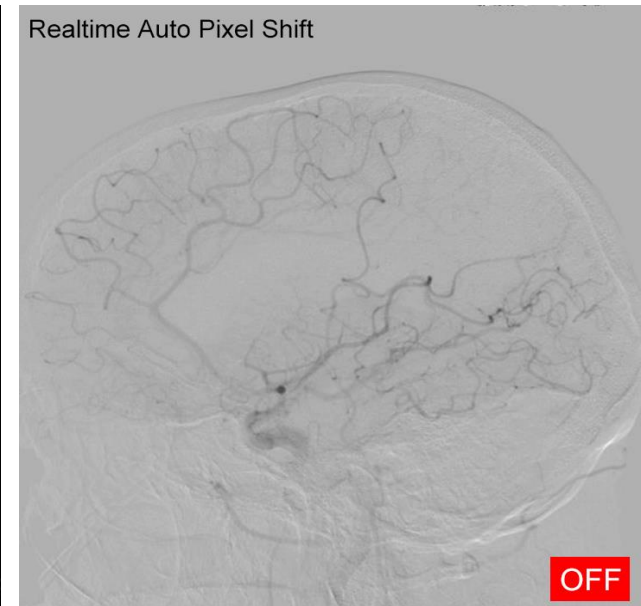
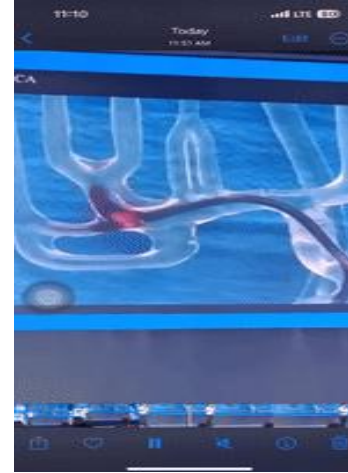
TELETHROMBOLYSIS:

- To ultra early reach to treatment within golden hour
- Portable CT scan, Transcranial Doppler, Ultrasound in ambulance

Issues: -skills

- reach within Golden Hour
- Imaging access
- IC bleeding

ONLY ISCHEMIC PNEUMBRA WILL REDUCE



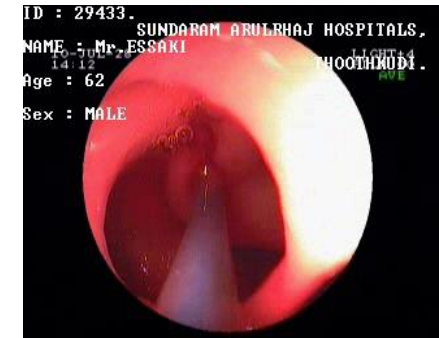
UGIB

ENDOSCOPIC MANAGEMENT:

Once the patient stabilized, upper GI endoscopic examination is done

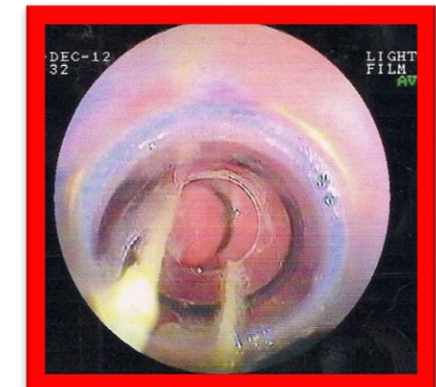
ENDOSCOPIC MODALITIES IN NON VARICEAL BLEED:

- Inj. Epinephrine, ethanol, ethanolamine, polidocanol, thrombin, fibrin, cyanoacrylate glue
- Thermal methods- Monopolar Electrocoagulation, Bipolar Electrocoagulation, Laser, APC, Heater Probe
- Mechanical Methods- Hemoclips, Band Ligation, Endo Sewing, Endoloop



Endoscopic modalities in variceal bleed:

- Inj. Sclerotherapy
- Varicial band ligation
- Glue Injection.



CHRONIC KIDNEY DISEASE

- Incidence-31%
- Treatment - RRT
Dialysis
- Transplant



CANCER

- **Incidence:** Lung-13%
GI-10%
Liver-6%
- Surgery
- RT
- Chemotherapy
- Immunotherapy



DIABETIC FOOT

- Diabetic foot

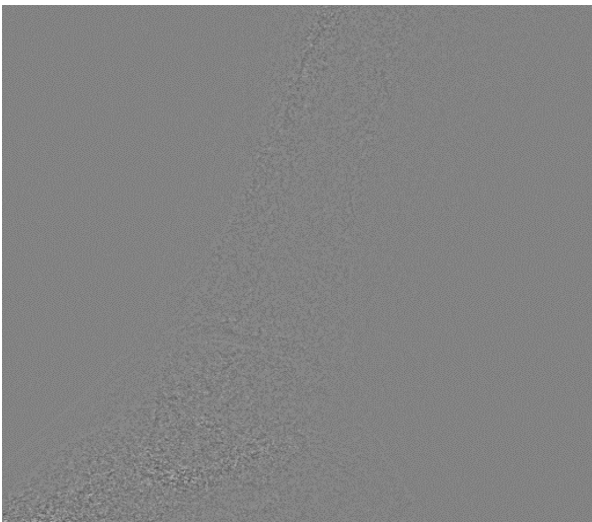
Incidence – 5% per year

- Doppler

- Angio/Angioplasty

- Amputation

Incidence - 1% per year



NCD Prevention

Therapeutic Lifestyle Change (TLC)

- Healthy Eating
- Physical activity
- Weight Management
- Habits
 - Smoking
 - Alcohol
- Sleep
- Yoga
- Meditation

TLC DIET

MEDICAL NUTRITION THERAPY

- Aim:**
1. Reduce Dietary contribution to Hyperglycemia.
 2. Control weight
 3. Control Dyslipidemia

WHO recommendation

Food composition	Recommendation
Total fat	25-35% of total
calories Saturated fat	< 7% of total calories
Polyunsaturated fat	Up to 10% of total calories
Monounsaturated fat	Up to 20 % of total Calories
Carbohydrates	50 – 60 % of total calories
Fiber	20-30 gm/d
Protein	15 % of total calories
Cholesterol	< 200 mg/d Total Calories

Sufficient to achieve/maintain desirable body weight

ICMR Guidelines for Management of Type 2 Diabetes- 2005,section 6

FOOD BE THY MEDICINE

TLC DIET

Carbohydrates 45-60% of calories

Avoid Raw sugar – High GI / GL

Avoid nutritive sweeteners - Fructose etc

Use non nutritive sweeteners –Aspartame Saccharin

Rice, Wheat, Ragi same value.

- Refined sugar raises Glucose quickly.
- Use complex carbohydrates- whole grains
- Reduce rice add vegetable and greens.

Malik VS et al, Diabetes Care 2010;33:2477–2483

NUMBERS PLAY THE TRICK

Food Pyramid



Foods rich in cholesterol and saturated fats (To be avoided)

- Egg yolk
- Fatty meat and organ meat (Liver)
- Butter chicken/ Butter fried fish
- Milk fat- Desi Ghee, Butter, Cheese, Malai, Rabri, Khurchan, Doda, Ice cream, Full cream milk
- Hidden fat like Bakery biscuits, Patties, Cakes, Pastries
- Foods that contain coconut or palm oil

FOOD IS HEALTH FOOD IS POISON

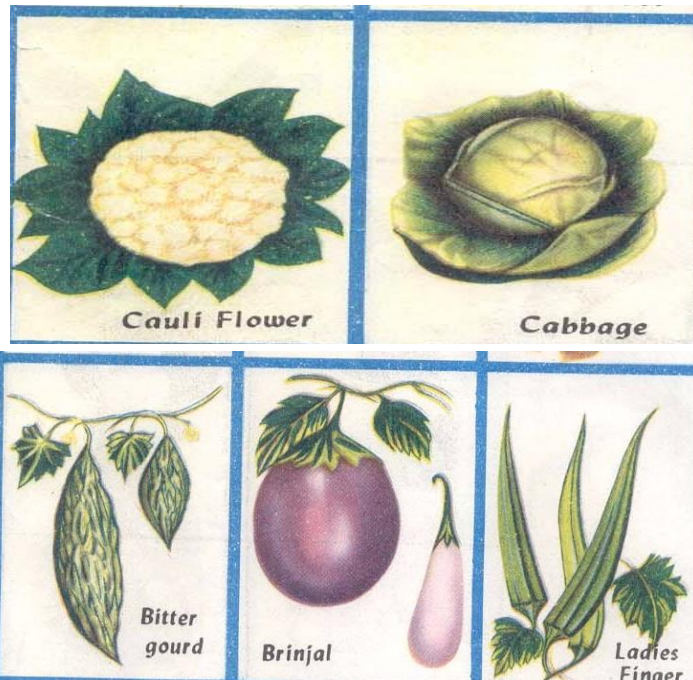
Food is Health

Vegetable, Green, Pulses

Fish

Boiled food

Low salt



Food is Poison

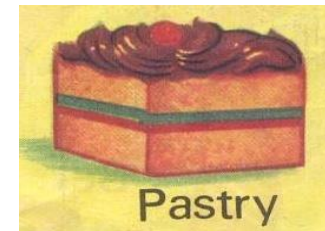
Non Vegetarian

Sweet

Fried

Fatty food

Large Quantity



EAT LESS LIVE LONG

PAROTTA-DIABETES-HEART LINK

Parotta, wrong recipe for your heart

Bleaching products used for processing maida are toxic to pancreas which secretes insulin

Shashy V. Mahalingam

MADRAS: Parotta is a popular dish in almost every home. Be it among the adults or children, it is always on the must-have list. Its taste and flavour, combined with salsa attracts all. The sizzling parotta stalls and the demand for 'parotta masters' in the city reveals the prominent role it plays in the dietary habits of the people.

However, there is a word of caution for parotta lovers from leading cardiologists in Madras who say that it may be a mouth-watering dish but at the same time it is also heart-damaging. The heart of the matter lies in the 'maida' which is said to be a wrong recipe for a healthy heart.

At a time when heart attacks, cardiac diseases and diabetes are threatening the productive young population, heart experts have revealed some hard truths about the fluffy, soft parotta which gives rouses the taste buds but puts the health of the eater at risk.

"Parotta contains the purest form of carbohydrates and the maida flour with which it is prepared is an enemy to your heart. Eating it means it is a direct depositing of fat and cholesterol in to your body," says R. Raghunathan, Head of Department of Cardiothoracic Surgery, Government Rajaji Hospital (GCH), here.



NOT AND TASTY, BUT LIFE-THREATENING: Cardiologists advise people, especially the middle-aged, to avoid 'Parotta' for healthy heart. — PHOTODISC JAMES

Colour of maida flour may look fair and fine when compared to wheat flour, but the process involved in its preparation shows how dangerous it is for vital parts such as heart and pancreas.

A. Madhavan, senior interventional cardiologist at Apollo Speciality Hospitals who is also a Fellow of heart specialists certified by the Geneva-based World Heart Federation, explained that the chemical Alkoxyl which is used to give softness to maida flour could lead to diabetes and thereby cause heart problems in the long run.

"Majority of the people prefer parotta for its taste but, remember that Alkoxyl is dangerous to pancreas which regulates glucose/sugar in our body. It is advisable not to get bowled by the taste

additions but also bear in mind the chemicals present in maida flour," he cautions.

Bleaching products used for processing maida are toxic to pancreas which secretes insulin. The bleaching agents present in maida are used to produce diabetes in experimental creatures such as rodents/animals.

Dr. Madhavan says that it is time to end the obsession with parotta in view of increasing child obesity, hypertension, early diabetes and heart attacks. "I think we can do a Maida study in Madras" to come out with findings. Those who are regular parotta eaters and those who keep away from that can be screened," he said.

Chief of Department of Cardiology at the GCH, R. Raghunathan, too joins in a

campaign against parotta in view of its threat to heart. "Lifestyle changes and mental stress are taking a heavy toll on our youngsters as many youngsters between 30 and 40 years of age are becoming heart patients. In such a case, the food we eat matters a lot and parotta is not good," he says.

Absence of fiber content in maida is seen as a major negative factor in parotta. It gets even more aggravated because of the side-effects or paraffinoma that accompany it such as 'edema.' Parotta has the capacity to shoot up your body sugar level.

"One gram of carbohydrate gives nine calories of energy. Imagine the impact of a parotta which is full of only carbohydrates and especially when you do not do sufficient physical exercises. Parotta may be cheap but it will be costly for your heart," cautions Dr. Raghunathan.

The parotta-diabetes-heart link can be severed from the current trends.

Even though there is no documentary evidence to say that maida is the actual villain, Dr. Madhavan says that changing food habits will indeed damage the heart.

"Out of 10 master health check-ups I do, three persons are newly detected diabetes cases. When I tell them they have sugar, they get shocked. So, right food at right time is the right way," he tells.

R. Ganesan, cardiologist, Meenakshi Mission Hospital and Research Centre, says that gentler fitness is of utmost importance these days. "Heart metabolic activity is vital. Every middle-aged man should walk for 30,000 steps a day. I don't mean climbing of steps, but a regular normal walking of 10,000 steps during the entire day, between morning and night," he suggests.

According to him, prevention aspects can begin at young age itself. "Fifty per cent of heart problems crop up in persons below 50 years of age and 25 per cent of cases are reported before 40 years of age. So, you can understand the gravity of the situation," Dr. Ganesan.

The message from Dr. Raghunathan was that people should go for healthy food such as idli, putta and chapathi while following nutritional balance with fruits and vegetables.

Next time, you order for a parcel of 'chilly parotta' or 'keema parotta', think twice because it can parcel off your heart and pancreas.

CLASSIFIED

TENDERS

Notice Inviting for
Bidding for
DEPARTMENT OF COMMERCE
GOVT. PRINTING PRESS
CHENNAI
E-tender day from 11 am

TLC – PHYSICAL ACTIVITY

BENEFITS IDENTIFIED BY ADA

1. Improved glycemic control
2. Prevention of cardiovascular disease.
3. Possible reduction in low density lipoproteins.
4. Improvement of hypertension.
5. Possible improvement of fibrinolytic activity.
6. Enhancement of weight loss and weight maintenance.

Sheri r. et al, diabetes care, volume 33, number 12, december 2010 e147-e167

Joslin wrote “It is much better to discuss how far you have walked than how little you had eaten”.

TLC EXERCISE

USDA Recommendation:

30minutes of moderate intensity physical activity
for most days of the week & reduce sedentary
activities.

Aerobic Exercise:

Brisk walking, jogging, running, swimming, Cycling.

Anaerobic Exercise: Strength training

- Increases muscles mass
&
-Bone / muscle strength

Indoor Exercise:

Evaluate clinically & start

Caution: Cardiac Ischemia, Retinopathy

facsm et al, diabetes care, volume 33, number 12, december 2010 e147-e167



BRISK WALKING BEST

LIFE STYLE BASED EXERCISE

Incorporate physical activity into daily living

Use stairs. Avoid lift.

Gardening , dancing, cycling.

Playing actively with children etc.

JAMA says -----

- Washing and waxing a car or washing windows or floors for 45 minutes.
- Gardening ,dancing fast (social) or raking for 30 minutes
- walking 1 3/4 miles in 35 minutes(20 min/mile)
- Pushing a stroller 1 ½ miles or bicycling 5 miles 30 minutes
- Stairwalking, shoveling snow or jumping rope for 15 minutes

JAMA 1996; 276: 522

REMOTES MAKE HEALTH REMOTE

Exercise Increase of Heart Rate to 60% - 80% of Peak Heart Rate

Prevent MI and stroke by 50%

Risk of post MI death by 25%

Improve Insulin Resistance

Lowers HbA1C 10% - 20%

Raises HDL-C 30%

Improve HTN/ obesity

Reduce Anxiety and Depression

Functional capacity improved in CHF & PAD



MOVE FOR HEALTH - WHO

SEDENTARY LIFE STYLE WILL LEAD TO SADNESS IN FUTURE



TLC –YOGA- MEDITATION -ASANAS

Asanas

- ◆ Improved glycemic control
- ◆ Reduction of blood pressure
- ◆ Correction of dyslipidaemia
- ◆ Reduction of insulin resistance and correction of hyperinsulinemia.
- ◆ Elimination of stress

Pranayam

- ◆ Plasma cortisol ↓
- ◆ Insulin receptors ↑

Donald garrow md,et al volume 29, number 1, january 2006 15-19

Reduces need for OHA & Insulin

WEIGHT MANAGEMENT

1.1 Billion adults are overweight
& the number has tripled over the
last 2 decades

**Increased mortality and
morbidity from type 2 Diabetes,
CHD, stroke, HTN etc.**

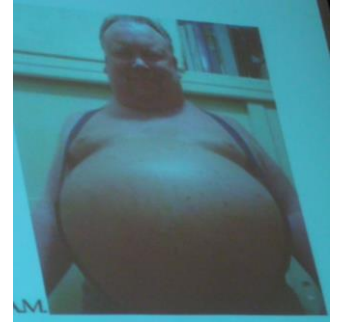
The Lancet, Volume 366, Issue 9483, Page 368, 30 July 2005

REGIONAL OBESITY

Pear Shape – Hip



Apple Shape – middle



Waist Hip Ratio= Male : 0.85 Female : 0.9

INCIDENCE — Above 70% of urban women and 50% of urban men are over weight & at anytime they can become obese. More than 30% of school children are obese.



CONSEQUENCES - Abdominal fat tissue (ABNORMAL FAT TISSUE) produces Neuropeptide Y which stimulates fat cell production. GHRELIN is also secreted by excess fat to keep them ever hungrier

HIP FAT GOOD : BELLY BAD

BENEFITS OF 10 KG LOSS OF WEIGHT

Category	Benefits
1. Mortality Rate	<ul style="list-style-type: none">↓ 20-25 % Total Mortality↓ 30-40% Diabetes – Related Mortality↓ 40-50% Obesity – Related Cancer Mortality
2. Blood Pressure	<ul style="list-style-type: none">↓ 10mm hg systolicBP↓ 20mm hg Diastolic BP
3. Angina Pectoris	<ul style="list-style-type: none">↓ 91 Symptoms↓33 % Exercise Tolerance
4. Plasma Lipids	<ul style="list-style-type: none">↓ 30% Plasma triglycerides↓ 8% HDL Cholesterol↓ 10% Total Cholesterol↓
15% LDL Cholesterol	
5. Diabetes Mellitus	<ul style="list-style-type: none">↓ 50% Risk for developing Diabetes↓ 30% - 50% Fasting Blood Glucose↓ 15% Glycated Hemoglobin (HbA 1C)

[Http://www.hhal.net/id21.html](http://www.hhal.net/id21.html)

NIGHT FOOD CULTURE CHANGE

SMOKING

- Independent risk factor
- Smokers have 45% increased risk of DM
- Number of cigarettes smoked and diabetes risk-dose related.
- Central obesity or abdominal fat.
- Anti-estrogenic and plasma testosterone decreased.
- Animal model: B cell dysfunction and apoptosis.

Willi C, Bodenmann P et al JAMA 2007;298:2654–2664

INDEPENDENT RISK FACTOR

ALCOHOL USE -DM

- Light-to-moderate use beneficial?
- Insulin sensitivity HDL cholesterol and adiponectin ↑
- Anti-inflammatory effect
- Men Vs Women
- Heavy alcohol consumption bad
- Increased triglyceride levels, pancreatitis, Glucose metabolism, and impairment of liver function
- ADA Vs WHO criteria

Koppes LL, et al Diabetes Care 2005; 28:719–725

Gupta PC et al Med J India 2005;18:88–91

Alcohol and smoking synergistic effect on diabetes risk

ALCOHOL AND NCD

- Harmful use of Alcohol is a serious Health Burden Kills 2.5 million annually
- 320,000 are youth between 15 to 29 years of age 4% of all Deaths Globally.
- 4-6% of DALYS lost
- 57% of alcohol related disease Burden is from NCD Cancer,CVD,Liver Disease and Diabetes
- Cancer account for 20% of disease and 35% of death
- CVD account for 22% of alcohol related death
- Liver disease account for 15% of alcohol related death



ALCOHOL IS NOT SAFE FOR HEART

BUILT ENVIRONMENT AND OBESITY

TIMES NATION 22.10.11

'70% Indians in big cities obese'

Worst Affected Age Group Is Between 24 And 39 Years Of Age: Survey

TIMES NEWS NETWORK

Mumbai: Urban India's greatest comforts are causing a super-size health problem: obesity. Thanks to easy access to high-calorie packaged foods and high-tech gizmos such as computers and smart TVs, almost 70% of the people living in mega cities such as Mumbai, Delhi, Bangalore or Chennai are overweight or obese, says a new multi-city survey.

The survey of 46,000 urban Indians with access to internet showed that 49% were obese or had a body mass index of 25. Another 24% of those surveyed had a BMI between 23 and 24.9, putting them in the overweight category.

Bariatric surgeon Dr Ramen



Goel said that these figures were in sync with his study conducted in Mumbai eight years back. "We interviewed and tested people working in corporate as well as public sector units in Mumbai and found that 60% were either overweight or

obese. At that time, people felt our results were exaggerated, but now we are vindicated," he said.

Dr Anoop Misra from Fortis Hospital in Delhi said his soon-to-be-published study showed that 40-70% of the capital was either overweight or obese. The seriousness of the obesity march in urban areas is best underlined when one considers the National Family Health Surveys peg obesity in India between 8% and 15% of the general population. "Obviously, when one takes into consideration the underdeveloped states or the smaller cities and towns, the overweight figure seems lower," said Dr Misra.

India earlier this year adopted a new BMI cutoff for obesity. "Now, Indians with a BMI of over 23 are

considered obese," said Dr Goel, adding that the new scale would put many more people in the overweight category than before. The survey, conducted by oil and fortified foods company Saffola, shows that north Indian cities of Delhi and Chandigarh are the obesity capitals with 53% of those surveyed being obese. A breakup shows that every second woman is obese and the worst affected age group is between 24 and 39 years of age.

The survey attributed this swell to the fact that urban Indians ate unhealthy food. The survey revealed that 53% of those surveyed ate 1 or less serving of vegetables or salads in a day. The worst vegetable eaters were in Ahmedabad, Chennai, Coimbatore and Hyderabad.

BUILT ENVIRONMENT SEDENTARY.

TLC – A ROAD TO NCD PREVENTION

- Target - GDM, IGT, IFG, obesity
- Family History and Inactive people
- Calories↓
- Fat↓
- Dietary Fiber↑
- Moderate weight loss (7% body weight)
- Regular physical activity 150min/wk

http://www.medscape.com/viewarticle/496829_2

42% - 58% REDUCTION IN T2DM

NCD Therapy

Diabetes	HTN	CAD	Obesity	Stroke	Cancer	COPD
OHA	Oral Drugs	Vasodilator	Diet	Antiplatelets	Chemo	Bronchodilators
Insulin	Parenteral drugs	Beta Blockers	Physical Activity	Heparin	Radio	Anti-histamine
Insulin Pump	Renal Denervation	ACE/ARB	Drugs	Cerebral Angio	Surgery	Antibiotics
Artificial Pancreas	Surgery (Eg. Coarcation of Aorta)	Angioplasty	Bariatric Surgery	Clot retrieval	Immuno-modulator	
		CABG		Stenting		
		ICD		In Hemorrhagic Stroke, - Coil Occlusion		
		Cardiac resynchronization therapy (CRT)				
		Transplant				

NCD - INTERVENTION

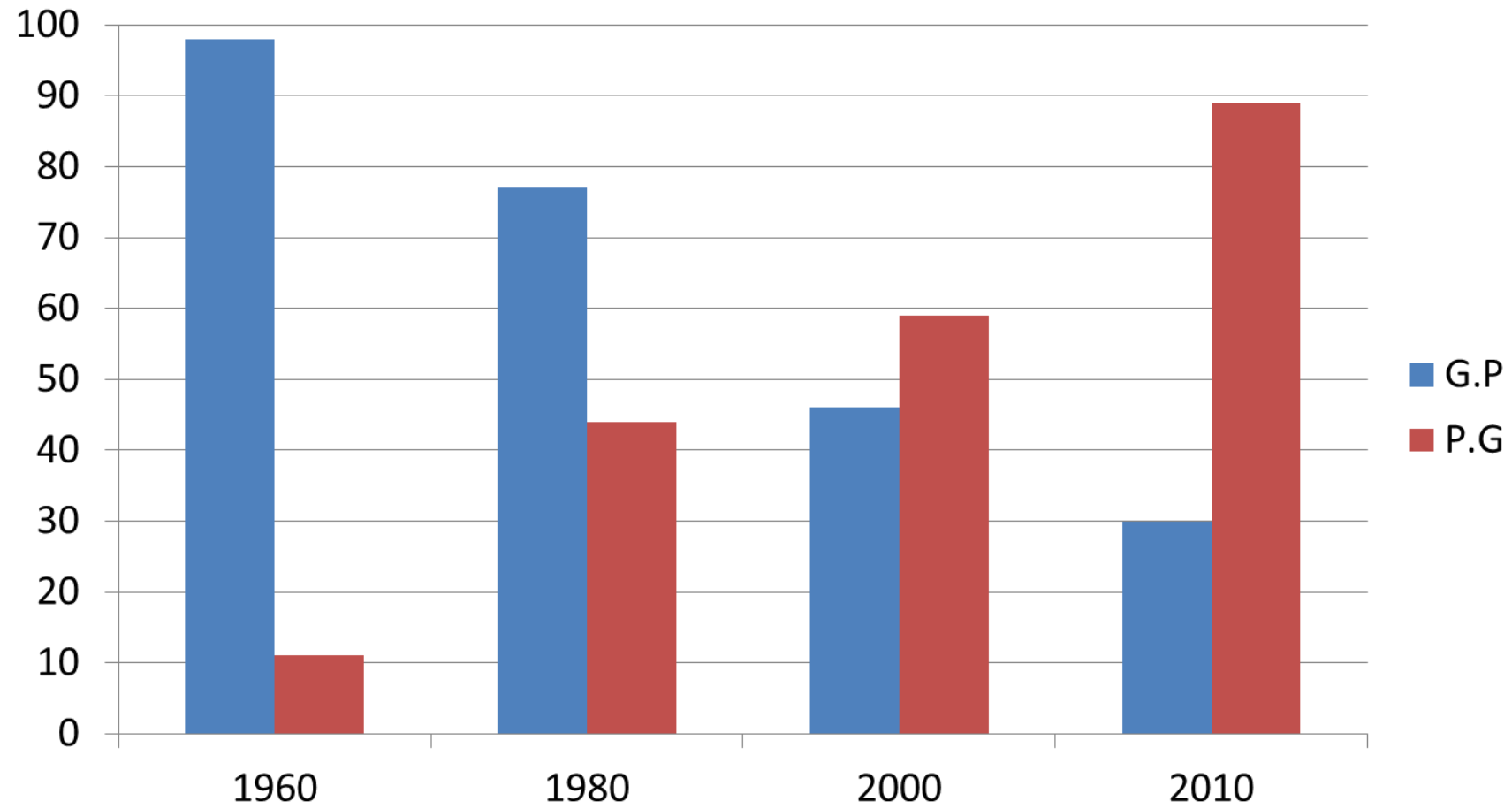
OR

PREVENTION

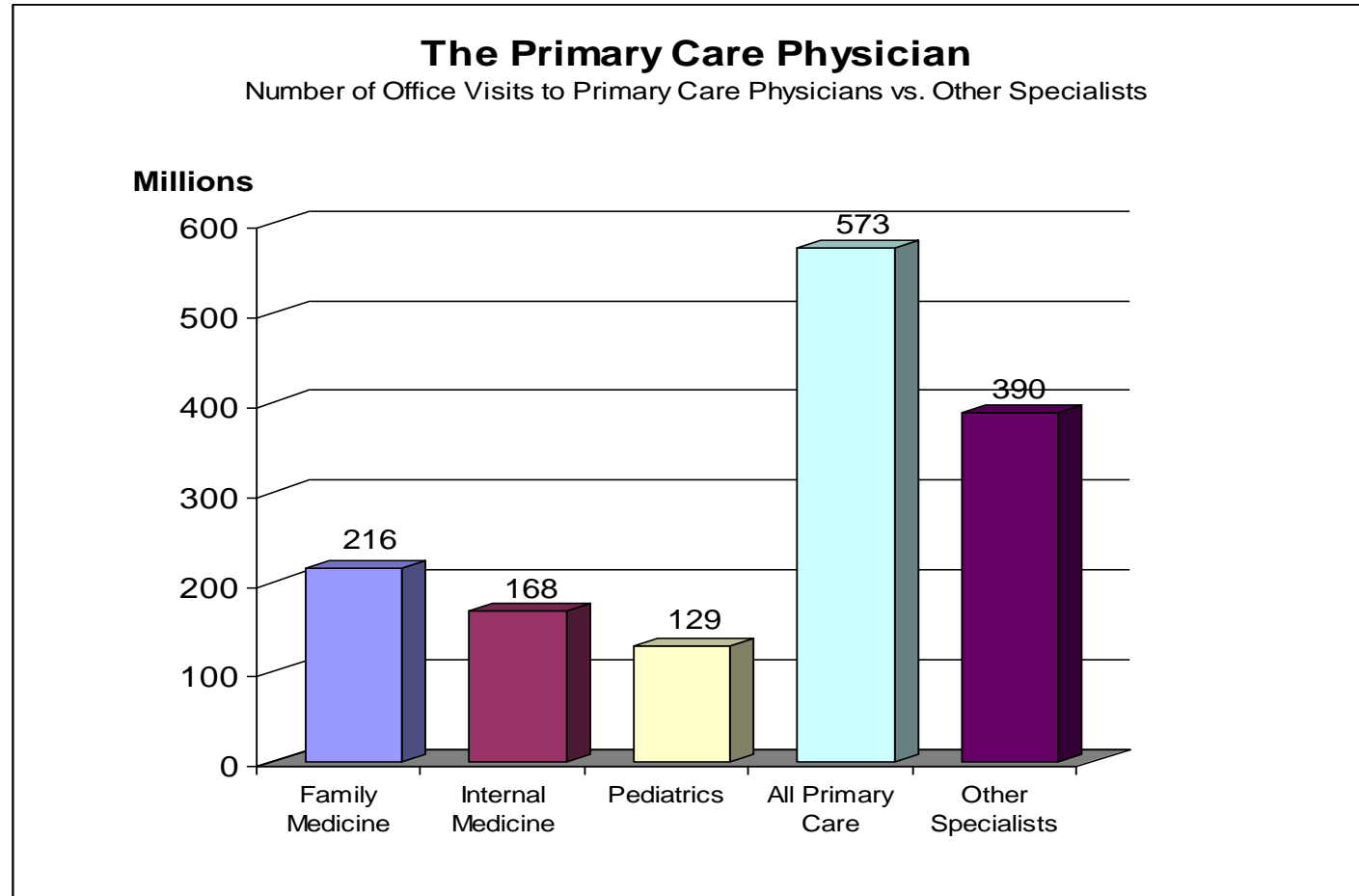
MANDATE IN WHOSE HANDS ?

FAMILY DOCTOR/ GP

DOCTORS



What are the primary care specialties?



Source: DA, Cherry DK. National Ambulatory Medical Care Survey: 2005 Summary. Advance Data from Vital and Health Statistics; No. 346, Hyattsville, Maryland: National Center for Health Statistics. 2004. <http://www.cdc.gov/nchs/about/major/ahcd/officevisitcharts.htm>.

Primary Health Care

- 80% Healthcare needs Primary Care
- 20% only needs Tertiary care
- 80% of Young Doctors are lured by that 20%
- 20% only settle for Primary care out of Chance not Choice.

HEALTHY INDIA ADAPTING FAMILY DOCTOR

ROLE OF PRIMARY CARE PHYSICIAN

- First Responder in CD & NCD
- Earlier Detection
- Control
- Detection & Referral for complications
- Prevention
- Continuum of Care

PRIMARY CARE THE KEY

CULTURE & GPS

- Family doctor - cares family.
- Knows local culture
- Knows family culture
- Knows family health profile

CHANGE OR STRENGTHEN CULTURE

FAMILY PRACTICE RETURNS

**Every modern medicine doctor
must adopt**

Family Practice Culture

NCD

A- Avoid Alcohol

B- Be Physically active

C- Cut down salt and sugar

D- Don't use tobacco products

E- Eat vegetables, Fruits and Greens

Educate GP

Diabetes

Control Prevention Reversal

5 Ds

- Diet
- Drill
- Discipline
- Drugs
- Doctor

Upscale the Knowledge & Skills of GP

NCD – Detection, Control, Prevention – Specialist or GP?

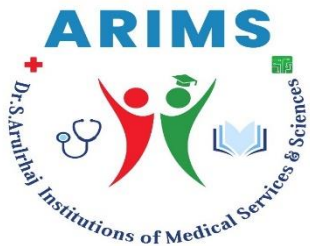
- Incidence – High
- World Capital of Diabetes
- Reachability – Difficult
- Communication – Effective
- Training – TLC
- Follow-up Control - Education
- Complications – Referral

GP – Key in NCD

CONCLUSION

- Misfortune always come in by a door that has been left open for them.
- Don't wait for a heart attack to take an action
- Don't wait for a second life we are not cats
- Don't take lifestyle modification as self deprivation.

NCDs are lifelong Diseases
Need Lifelong Doctor- Family Doctor
Empower Family Physicians



THANK YOU..