

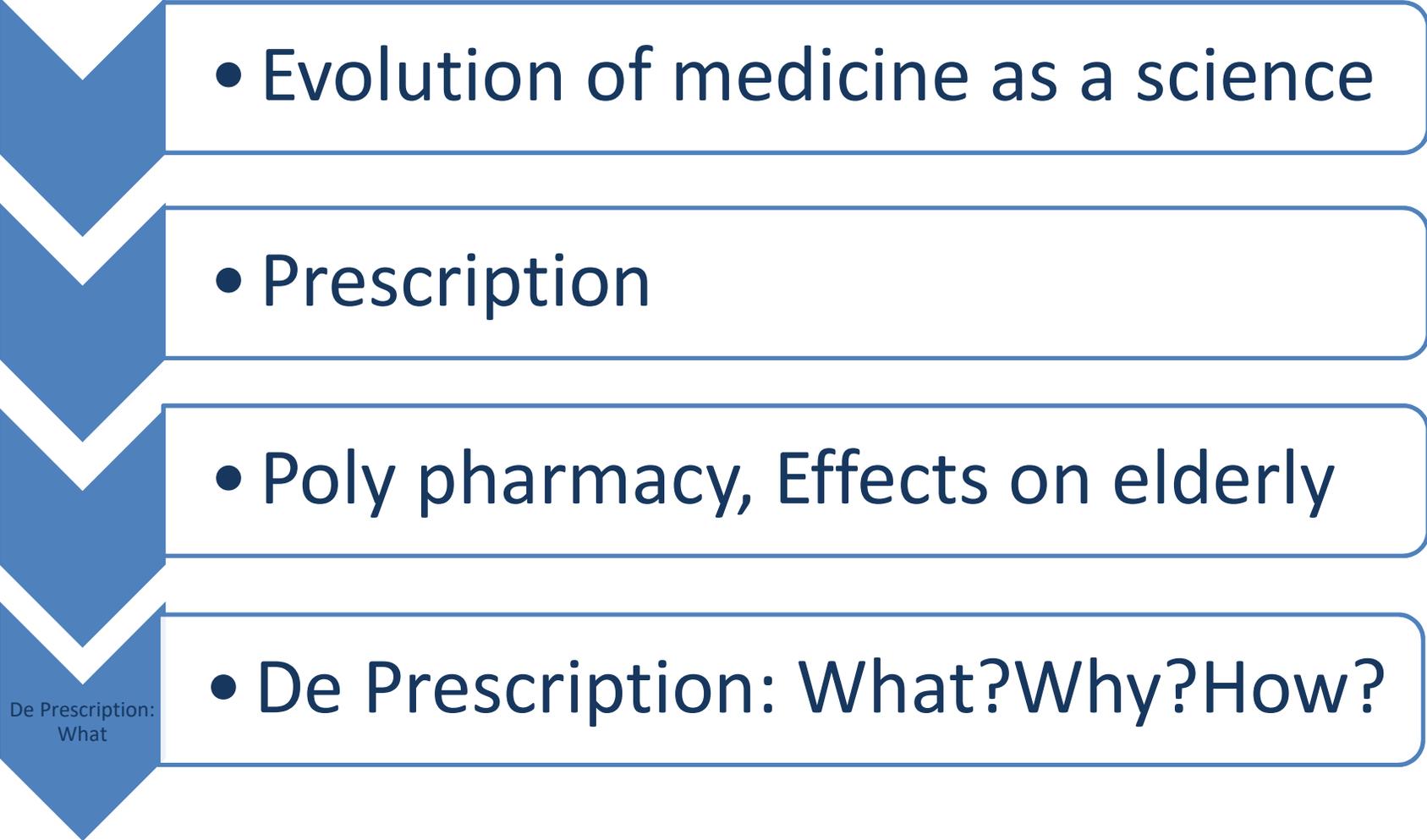
De-Prescription: When and How?

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Professor of Medicine, Popular Medical College

Governor, ACP Bangladesh Chapter.

Segments



- Evolution of medicine as a science

- Prescription

- Poly pharmacy, Effects on elderly

- De Prescription: What?Why?How?

De Prescription:
What

Ancient Medicine



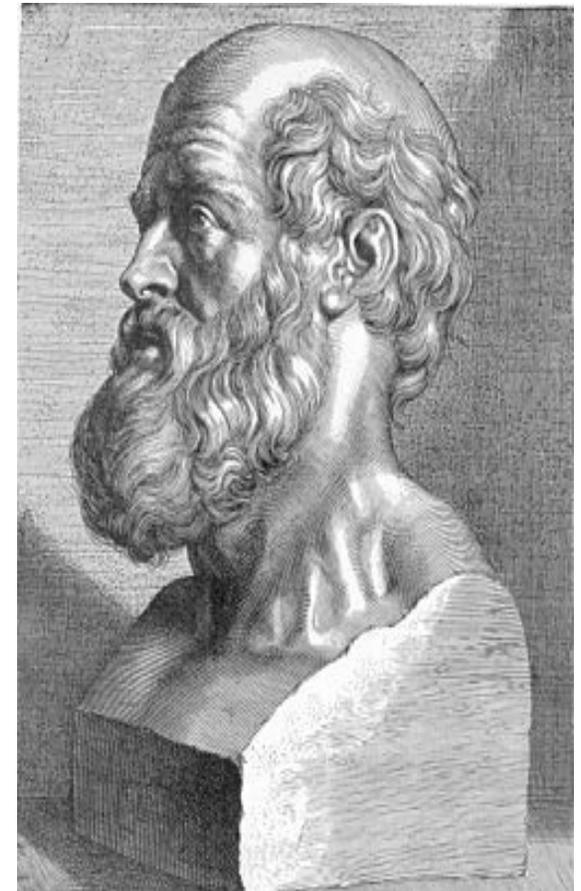
Imhotep

3000 BC



Charaka

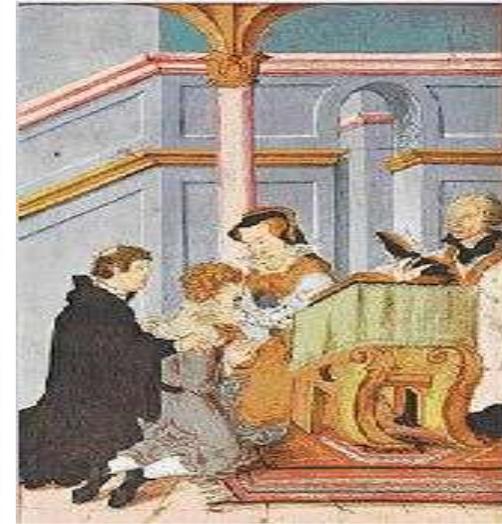
400BC



Hippocrates

300BC

King's touch heals king's evil! Up to 1714



- English and French kings continued the practice of touching thousands of sick people with an aim to heal scrofula
- Queen Anne was the last English Royal to use the practice [1712] George I put an end to it in 1714.

Hippocrates (460–357 BCE)

- Defined the role of the physician very simply; he ‘must have two specific objectives in view with regard to disease, namely **to do good or to do no harm**’.

চরক সংহিতা (নবম অধ্যায়) 400-300 BC

চিকিৎসকের গুণ

- ১। বিদ্যা ২। যুক্তি ৩। বিজ্ঞান
৪। স্মৃতি ৫। তৎপরতা এবং ৬। ক্রিয়া

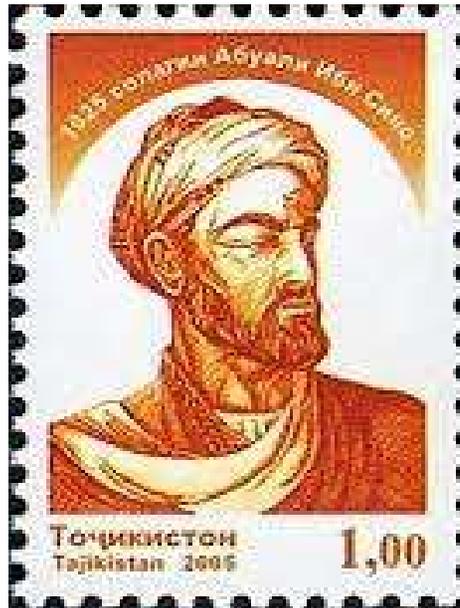
চিকিৎসকের কর্তব্য

- ১। রোগীদের প্রতি মৈত্রী ও ২। করুণা
৩। উৎসাহ সহকারে সাধ্যরোগ সমূহের চিকিৎসা
এবং
৪। সুস্থ শরীরের জীবদের প্রতি ঔষধ প্রয়োগ
উপেক্ষা করা।

Ancient Medicine to evidence based Medicine



Al Rhazes(841-926)

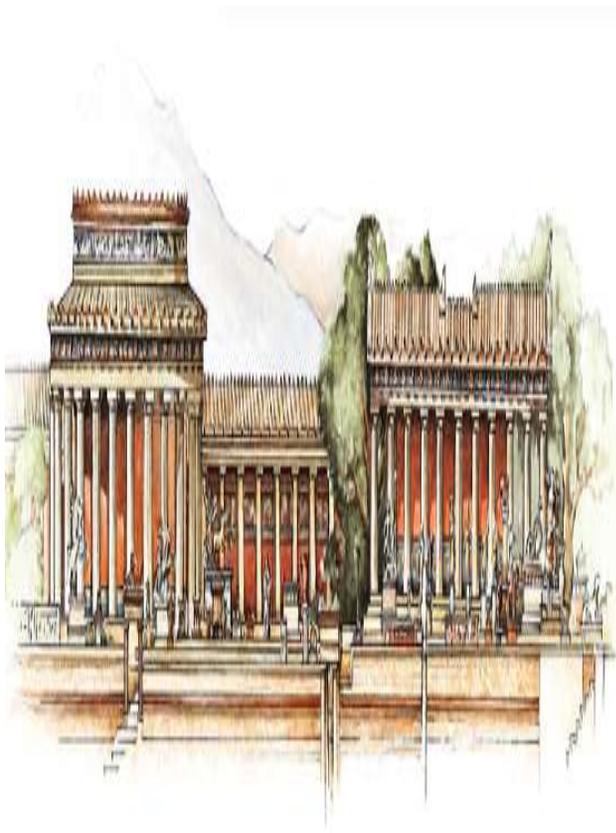


IBN Sina(980-1037)



R. Koch(1843-1910)

Medical institutes Ancient to present



Sacred Hospital (460-370 BC) Al Azhjar university (970AD)

10. Al-Azhar University



Location: Egypt

Established in: 970 AD



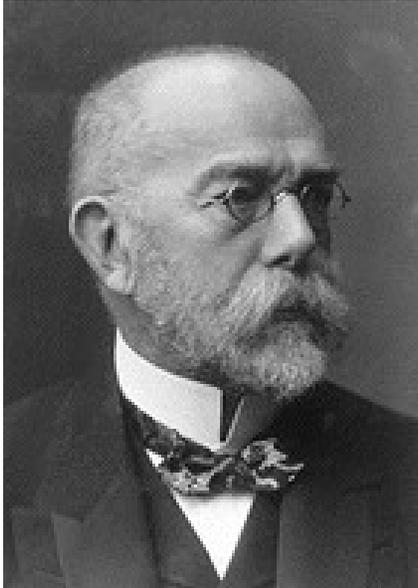
Harverd medical school

Setting the Stage for Evidence Based Medicine



1870: microscopy had developed to visualize Pasteur's micro-organisms.

‘There is nothing left to prove.’- J.F. Cohnheim



- In 1876, demonstrated the existence of anthrax spores and its complete life cycle
- He photographed bacteria
- Formulated Koch's Postulates -the theory of causation of infectious disease

Modern medicine



❖ When to treat

➤ To treat disease

➤ To relieve symptoms

➤ To Manage condition

❖ Not all medications
are needed lifelong

Prescribing

is a rational approach to a series of challenges,

namely –

- Establishing a diagnosis
- Decide therapeutic goal
- Choosing appropriate drugs

Prescribing Medicine



The word "prescription", from "pre-" ("before") and "script" ("writing, written"),

an order that must be written down before a compound drug can be prepared

- *Rx* is an abbreviation for the Latin word 'recipe'.
- Meaning "take" thus / "take thou

Essential Components of a Prescription

- Date
- Identification details of patients
- The Name of the drug and formulation
- The dose and frequency of administration
- The route and method of administration
- Prescriber's signature

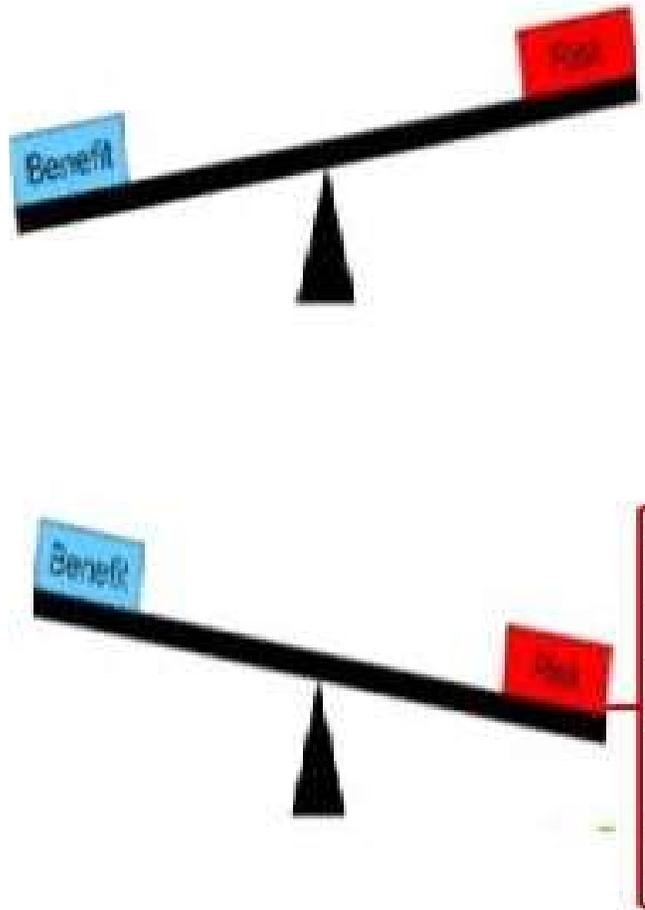
Factors to be considered : Balancing benefits and harms

- Seriousness of disease or symptoms
- Efficacy of the drug
- Potential adverse effects of drugs
- Likelihood of adverse effects
- Efficacy and safety of alternative drugs or non-drug therapies

Prescribing in elderly

- Reduced drug elimination
- Increased sensitivity to drug effects
- More drug interactions
- Lower starting doses and slower dose titration
- Drug adherence
- Some drugs require extra caution

Seniors have different pharmacokinetics



- Age related changes in PK/PD
- Multiple comorbidities
- Fragility and Disability
- Polypharmacy and acidities risk of side effects and drug interactions
- incomplete haemostatic response
- Non-adherence to medications

Transition in World Population demography

- Since 1900, life expectancy has increased 43% for all ages
 - 1900: 50 years
 - 1988: 75 years
- Persons > 65 are fastest growing group in U.S.
 - 1900: 4% of population
 - 1980: 11% of population
 - 2030: 22% of population

Age is no hurdle



Sheikh Hasina
Age 71 years



Queen Elizabeth II
Age 94 years

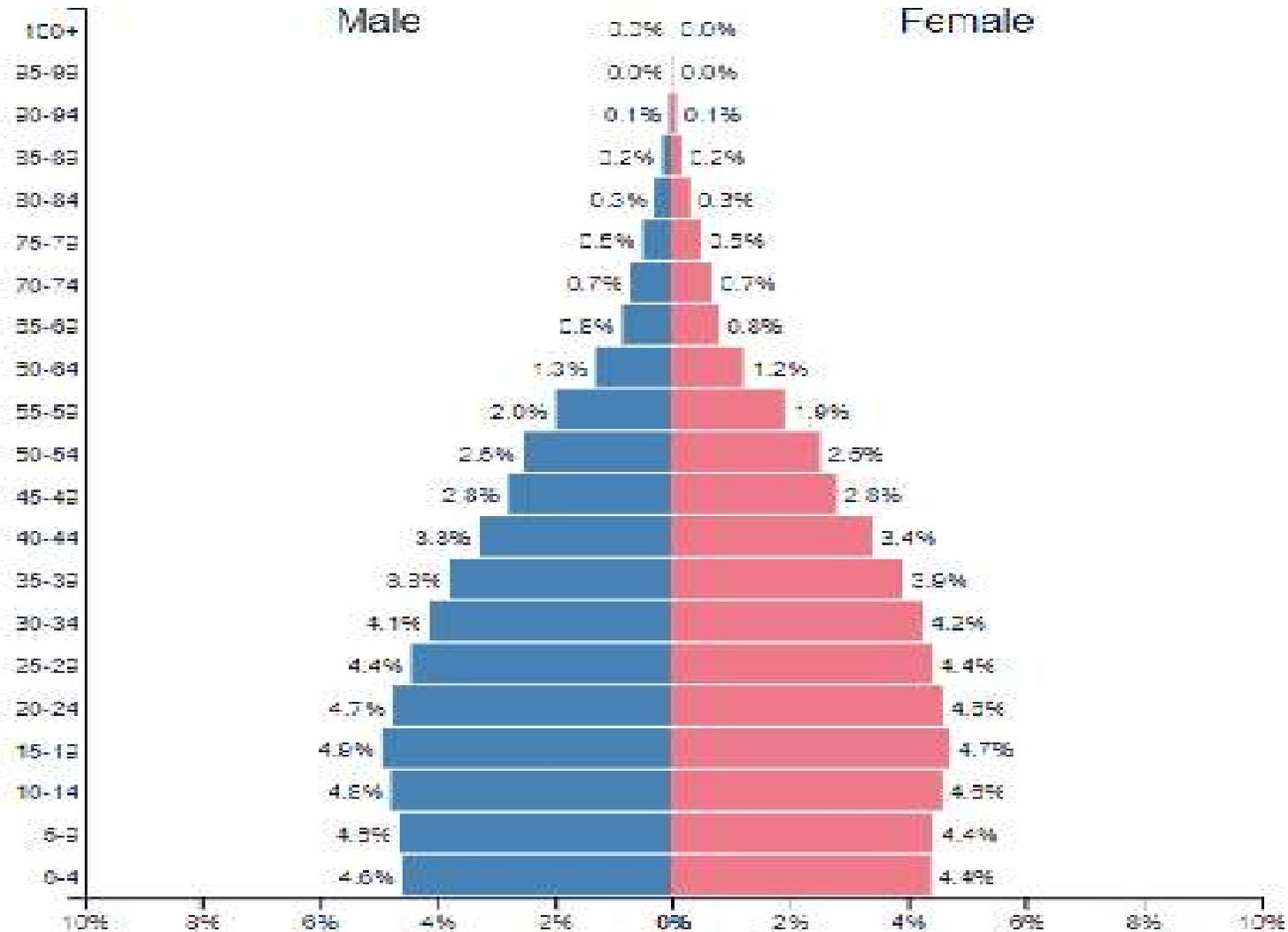


Mahathir Bin
Mohamad Age 94

Bangladesh ▼

2019

Population: 168,618,092

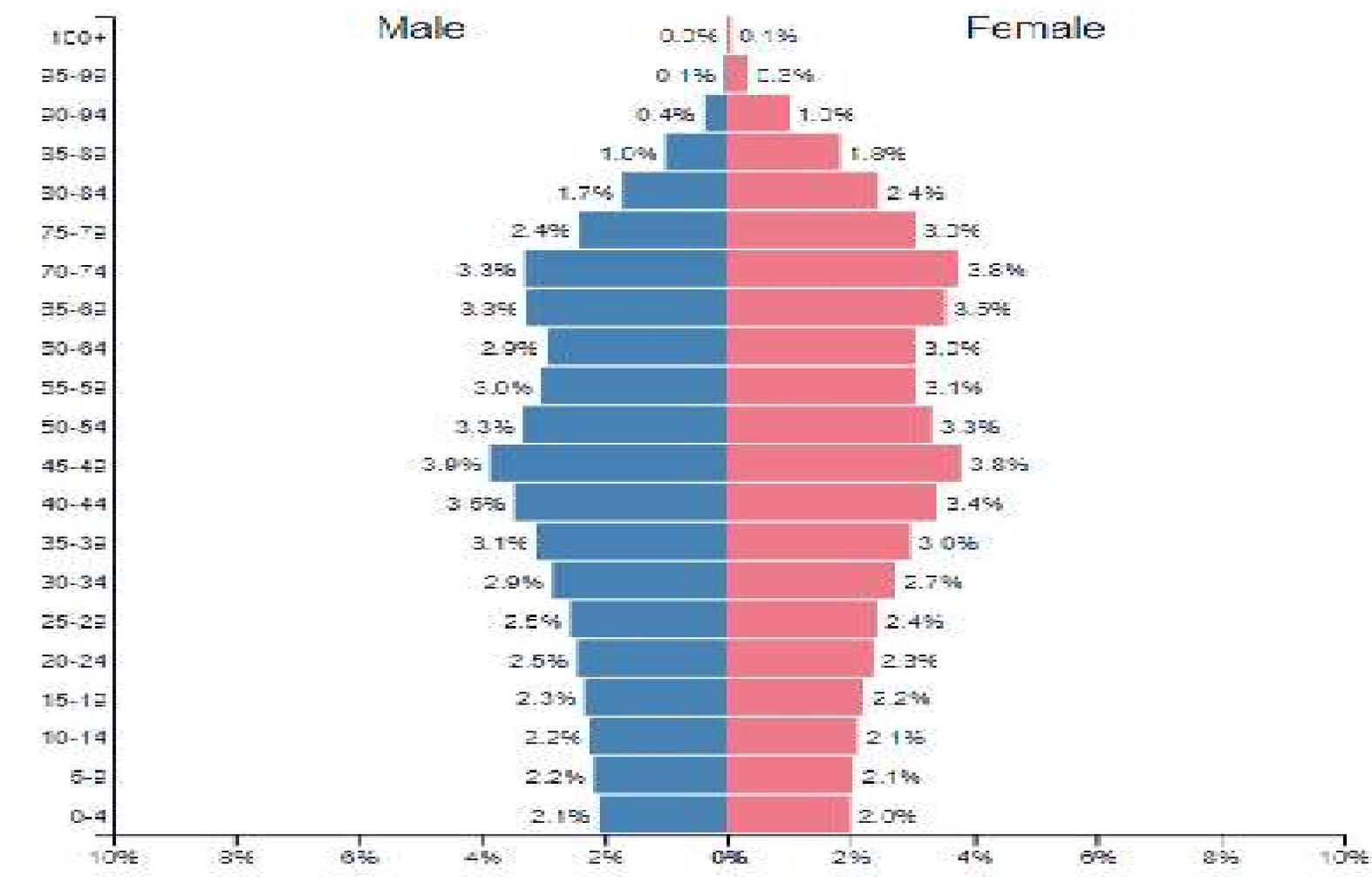


Aging population of Japan

Japan ▼

2019

Population 125,402,911



Changing Population demography of Bangladesh

- Life expectancy has raised from 49 years to 72 years
- Declining fertility and mortality rates.
- Approximately 8.4 % of the population is aged over 60 years at present.
- By 2050 Median age may rise to 34.8 years with 16% of its population over the age of 60 years.

Polypharmacy in the senior citizens

- One-fifth of adult patients are treated with polypharmacy (five or more drugs)
- From a study of English GP prescriptions
 - 17% take 5-9 drugs
 - 9.7% take >10drugs

Polypharmacy: elderly patients

- increases the risk of adverse reactions, inappropriate prescriptions, drug interactions, number of hospitalizations, costs, and even death.
- increase fall risk by about 50%, Withdrawal of psychotropic drugs reduced falls by 66%
- Avoiding benzodiazepine in elderly could reduce hip fractures by 10%.

- “ANY NEW SYMPTOM IN AN ELDERLY PATIENT SHOULD BE CONSIDERED A DRUG SIDE EFFECT UNTILL PROVEN OTHERWISE”

- Dr. J. Avorn, Geriatrician



Confusion



Fall

Poly-pharmacy: Common Culprits

- Benzodiazepine
- PPI
- Diuretics
- Corticosteroids
- Laxatives
- Multivitamins
- Food supplements

PPI:



Friend or Foe?

- ❑ PPIs have been associated with an increased risk of a number of adverse effects
 - osteoporotic-related fractures,
 - *Clostridium difficile* infection,
 - community-acquired pneumonia,
 - vitamin B12 deficiency,
 - kidney disease,
 - dementia,

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➤ Discharge certificate of 87% patients contain PPI

➤ 28.5 % had appropriate indication

J MEDICINE 2017; 18: 27-29

Over prescription of Proton Pump Inhibitors on discharge of Medical Inpatients

SARMISTHA BISWAS,¹ ABM ABU SUFIAN,² PRODIP KUMAR SARKAR,³ MOSTOFA KAMAL CHOWDHURY,³ JOYBAER ANAM CHOWDHURY,⁴ CHANDRA SHEKHAR BALA,⁵ MD. RAFIQU L ISLAM,¹ HAM NAZMUL AHASAN,⁶ MA KASHEM⁷

Abstract:

Background: Proton pump inhibitors (PPIs) are the drugs used to treat and prevent acid peptic conditions. Their efficacy and safety profile has led to injudicious prescription of these drugs exposing patients to various potential risks and increased healthcare expenditure.

Methodology: A retrospective observational study was done from 10th January to 24th January, 2015 in Medicine Indoor in a tertiary care hospital to determine the trend of prescribing PPIs on discharge of Medical inpatients.

Result: We found 117 patients were discharged in the study period; 83 were male and 34 were female. Among them 102 (87.17%) were prescribed PPIs on their discharge. Mean age was 44.79 years. Among the study population only 29 patients (28.5%) truly needed PPIs during their discharge. The mean duration of prescribed PPIs was 28 days.

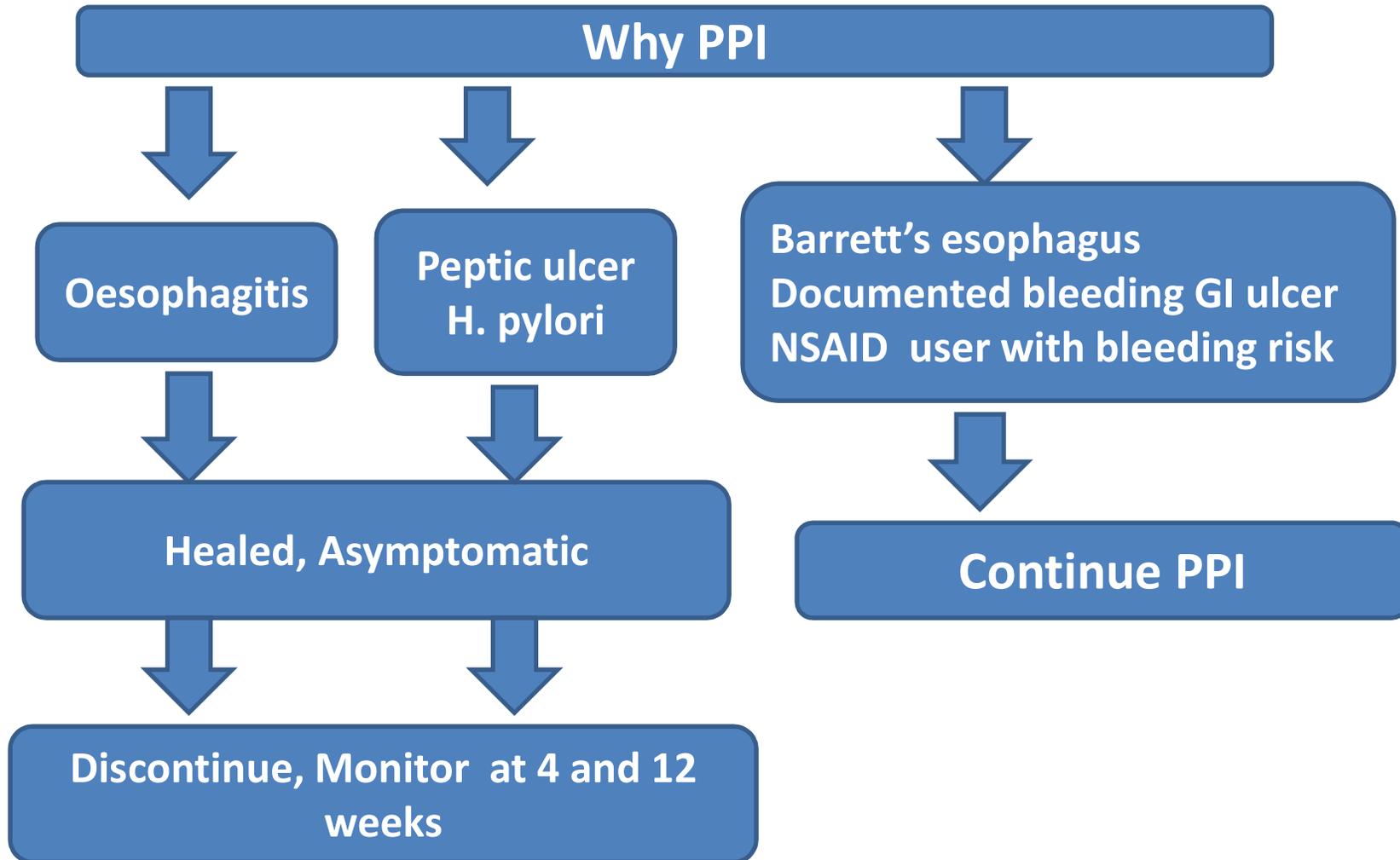
Keep going?





Do something?

De-prescribing PPI





BYE-BYE, PPI.

Miscellaneous Drugs prescribed with Anti TB

Drugs prescribed with anti TB regimen	Percentage of patients
Multivitamin	41.9
Oral Irons	22.31
Cough expectorants	6.7
Antibiotics	5.0
PPI/H2 Receptor blockers	3.9

- Nazmul Ahasan H.A.M, Hossain M.A. Drug Defaulters in Pulmonary Tuberculosis. **Specialist**, 1999:15: 175-9

What is De-prescription?

- Process of withdrawal of inappropriate medication supervised by a health care professional with the goal of managing polypharmacy and improving outcomes

Objectives of De-prescription

- Planned and supervised process to reduce medication burden which is considered inappropriate
- Maintaining or improving quality of life of patients

De-prescription-Goals

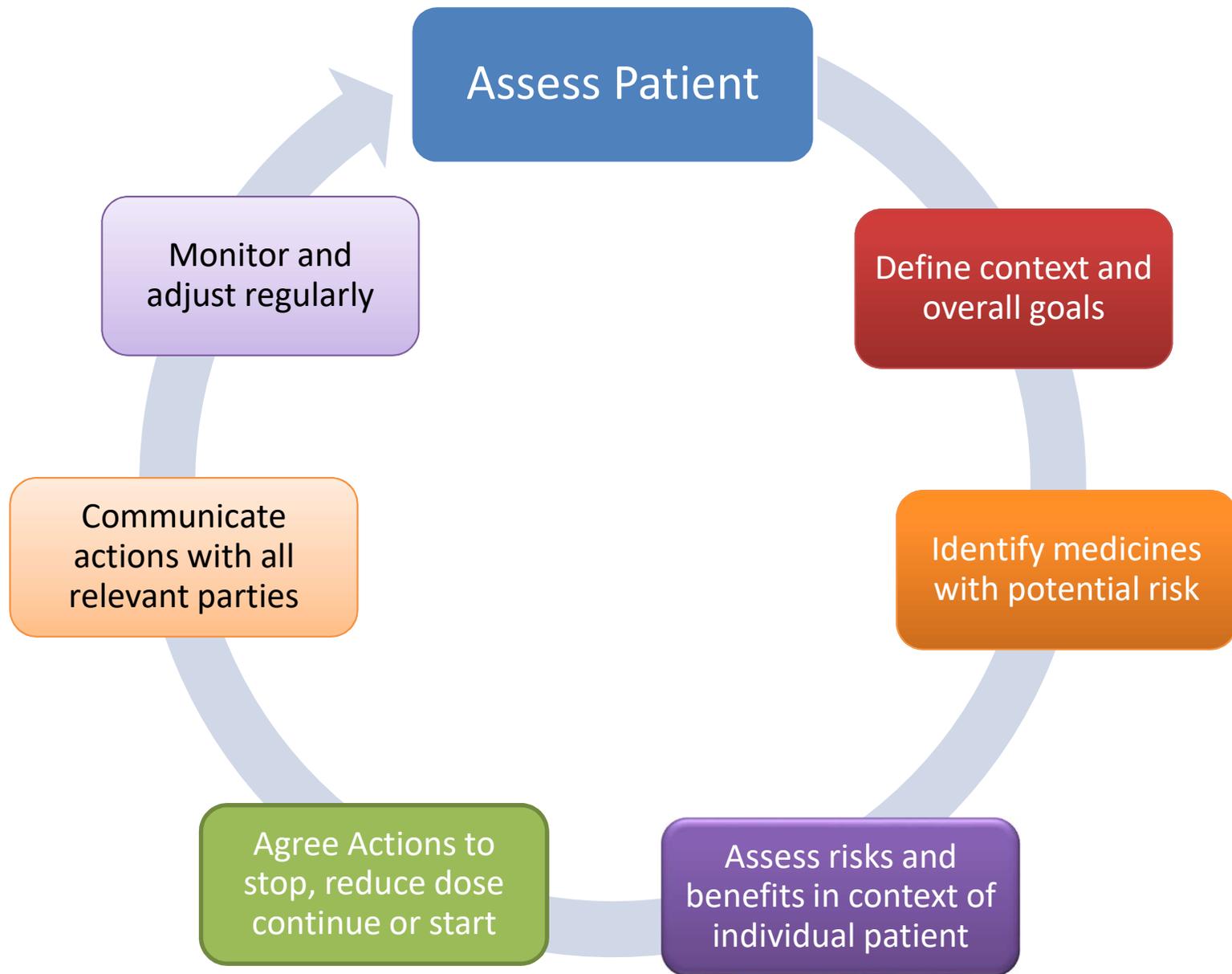
- Optimizing medical therapy
 - Evidence for ongoing indication
 - Evidence for effectiveness
- Avoiding adverse effects
- Improving outcomes
- Enhancing and maintaining the quality of life

De-prescription

Benefits	Harms
Avoid inappropriate medications	Withdrawal symptoms
Reduce adverse effects and drug interaction	Rebound effect
Reduce poly-pharmacy related sufferings, hospital admissions and death	Recurrence of symptoms
Reduce the cost of treatment	

How to do ?

- Full initial evaluation of the patient,
- Identifying potentially inappropriate medication,
- Prioritizing drug for discontinuation,
- Performing the deprescription and monitoring
the result bearing in mind the risk



Seven Steps Towards Deprescribing



Assess patient:
identify medicines related problems and establish the patient's perspective



Define goals:
discuss how medicines use impacts on the patient's overall health goals



Identify medicines of concern:
consider ALL the medicines the patient is taking and identify potential risks vs benefits according to the best evidence and patient perspective



Agree priorities for review:
identify medicines according to appropriateness based on the patient's current priorities



Seven Steps Towards Deprescribing cont.



Agree to stop, reduce, continue dose or start medicine: this is a collaborative decision between clinician and patient - communicate to prescriber as appropriate



Communicate with other relevant parties: facilitate the implementation of medication-related actions and ensure support from all relevant parties as appropriate



Monitor and adjust regularly: maintain continuity of care by ensuring a robust chain of professional responsibility



Barriers to Deprescription: Doctors

- Concerns from the patients or the family,
- Worries and doubts from the physician,
- multiple professionals treat one patient
- Some issues related to each health system

Barriers to Deprescription: Patients

- Be psychologically attached to a medication
- Be physically dependent on a medication
- Feel abandoned if the medication is stoppec
- Consider that it is because death is imminent
- Not understand why a chronic treatment may no longer be useful



Deprescribing guidelines

- **Proton Pump Inhibitor (PPI)**

Proton Pump Inhibitor evidence-based de-prescribing guideline

- **Benzodiazepine**

Benzodiazepine de-prescribing guideline

- **Antipsychotic**

Antipsychotic de-prescribing guideline

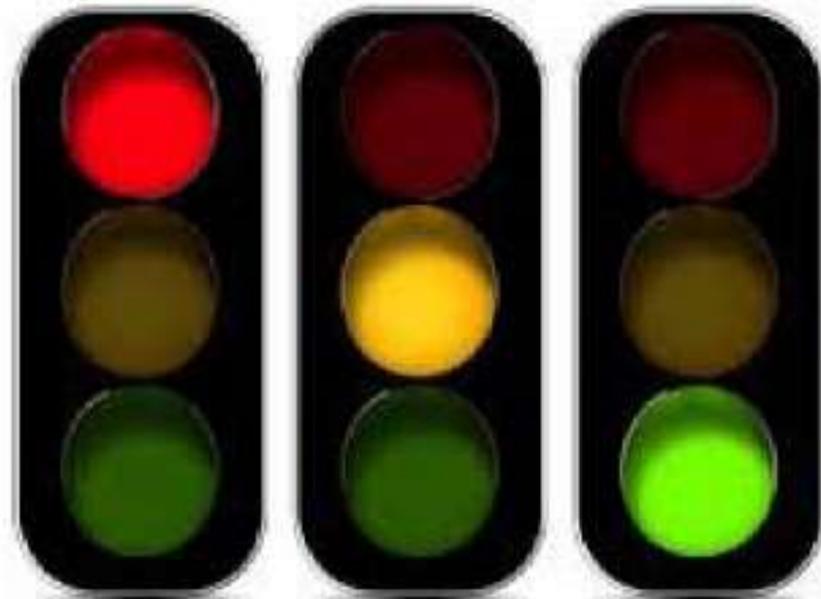
- **Antidepressants**

We have to think of

- Gabapentin
- Baclofen
- Supplements e.g. Calcium
- Clonazepam
- Alprazolam

Developing De-prescribing guidelines

Each guideline should answer the following question about the medication



When to : STOP

REDUCE

Continue 

Practice centered De-prescribing

- Different de-prescribing models.
- Focused especially on elderly patients.
- Focused on certain other specialties such as psychiatry.

Take away message

- Medication is used to relieve symptoms or to heal disease. Not to cause newer problems
- Poly-pharmacy , specially in elderly patients is hazardous
- Strong evidence for benefit of de-prescribing

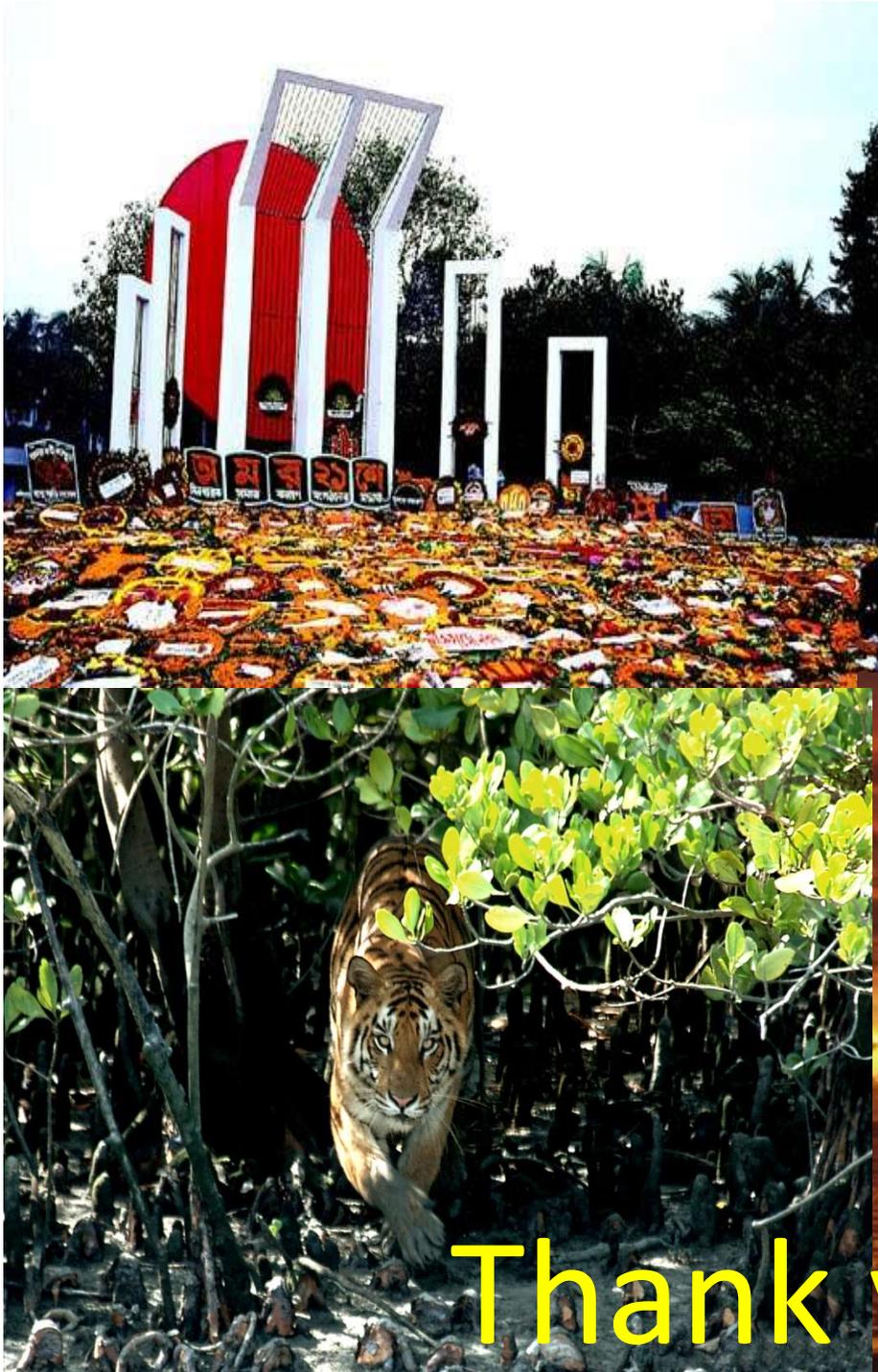


Take away message

- Withdrawal of specific medication has shown better patient outcomes
- Need balance of priorities of patient, Current evidence and Risks/benefits
- Communication with patient/carers and other health professionals is key to success

Acknowledgement

- Dr. Chandra Shekhar Bala FCPS, FACP
- Bangladesh Society of Medicine



Cox's Bazar

World's longest natural sea beach

Thank you all