INTRODUCTION TO GERIATRIC MEDICINE

Dr. Edwin Gomes.
AGING

• Aging can be defined as a progressive and generalised impairment of function resulting in the loss of adaptive response to stress and increased risk of age related diseases.

• The overall effect of these alterations is an increase in the probability of declining health and dying and which is also often associated with social, emotional and financial marginalisation in old age.
GERIATRIC MEDICINE: MAIN ISSUES

- Understanding basic concepts
- Approaching the older patient
- Age related physiological & pathological states
- Demographic impact on geriatric health care
- National programmes and services
BASIC CONCEPTS

- Multiple diseases and multiple drugs.
- Diseases often chronic, progressive with adverse consequences. Focus on functional independence.
- Prevention is more productive and rewarding.
- Disease profile influenced by socioeconomic & emotional status.
- Symptoms may be silent: no pain in MI, no fever in infection or may be atypical & unrelated. Weak link organ symptoms: confusion, incontinence, faints, falls, depression, heart failure-Geriatric Syndromes.
- Features like reduced jerks, bacteriuria, IGT common.
APPROACHING THE OLDER PATIENT

• Do not be an ageist
• Have patience in history taking
• Optimize communication
• Make the patient safe & comfortable
• Get a full medication list
• Assess family’s cooperation & attitude
• Assess care giver’s stress
### PHYSIOLOGICAL CHANGES AND THEIR IMPACT

#### CHANGE: DECREASE IN
- Basal metabolic rate
- Pulmonary function
- Renal function
- Bone mineral
- Gastro-intestinal function
- Sight
- Dentition
- Taste

#### IMPACT: DECREASE IN
- Calorie needs
- Exercise capacity
- Ability to conc/dilute urine
- Fracture resistance
- Bowel motility
- Independence
- Eating ability
- Appetite
COMMON GERIATRIC DISORDERS

- **CVS**: hypertension, IHD, heart failure, PVD, syncope
- **Resp**: pneumonia, tuberculosis, asthma, COPD
- **CNS**: stroke, dementia, meningitis, encephalopathy
- **Endo**: diabetes, thyroid, sexual, metabolic diseases
- **Musculoskeletal**: osteoporosis, OA, RA, falls, fractur
- **GIT**: dyspepsia, constipation, NSAID gastrop, GERD
- **Urogenital**: UTI, BPH, menopause, incontin, prolaps
- **Cancers**: breast, lung, prostate, cervical, haematol
- **Spl senses & iatrogenic**: eye, ear, taste, skin, ADRs
MORTALITY DISTRIBUTION IN OLDER PERSONS

(Govt. Of India Statistics)*

CAUSE OF DEATH (Times Prevalance in Gen. Population) **

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Note</th>
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<tbody>
<tr>
<td>Weakness</td>
<td>Low muscle strength</td>
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<tr>
<td>Fatigue</td>
<td>Body aches</td>
</tr>
<tr>
<td>Anorexia</td>
<td>Confusion</td>
</tr>
<tr>
<td>Constipation</td>
<td>Insomnia</td>
</tr>
<tr>
<td>Altered taste</td>
<td>Impotence</td>
</tr>
<tr>
<td>Breathlessness</td>
<td>Faints/ Falls</td>
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</tbody>
</table>
• Aging process is normal, progressive, and physiologically irreversible.

• Aging occurs despite optimal nutrition, genetic background, environmental surroundings, and activity patterns.

• Biological aging process, may demonstrate altered rates of progression in response to an individual’s genetic background and daily living habits.
Goals of Care

• The usual “fix-it” model is inadequate for geriatric medicine

• The best possible outcome for an elderly patient must be defined by patient’s preferences and values

• Most treatments are only partially effective and carry both burdens and benefits, and reasonable persons differ in evaluating these

• Good decision making requires that the possible futures of the patient
Components of assessment of the elderly

- Physical
- Psychologic
- Function
- Socio-economic
Initial evaluation of geriatric patient

• Primary reason for visit
• Current medical problems
• Past medical and surgical history
• Current medications
• Medication allergies
• Vaccine status
  – Influenza, pneumococcus, tetanus
• Social issue
  – Living status
  – Driving
  – Smoking
  – Drinking alcohol
Potential difficulties in taking history from elderly

- **Communication**
  - Diminish vision
  - Diminish hearing
  - Slowed psychomotor performance

- **Underreporting of symptoms**
  - Health belief, fear, depression, altered physical and psychological responses to disease process
  - Cognitive impairment

- **Vague or nonspecific symptoms**
  - As above
  - Altered presentation of specific diseases

- **Multiple complaints**
Important aspects of the history in the elderly

• Social history
  – Living arrangement, relationships with family and friends, expectation of family or other care givers, economic status, abilities to perform activities of daily living, social activities and hobbies, mode of transportation

• Past medical history
  – Surgical procedures, major illnesses and hospitalizations, immunization status, TB, medications, perceived beneficial or adverse drug effects
Purposes and objectives of functional status measures

• Description
• Screening
• Assessment
• Monitoring
• prediction
Examples of measures of physical functioning

• Basic activities of daily living (ADL)
  – Feeding, dressing, ambulation, toileting, bathing transfer (from bed and toilet), continence, grooming, communication

• Instrumental activities of daily living (IADL)
  – Writing, reading, cooking, cleaning, shopping, doing laundry, climbing stairs, using telephone, managing medication, managing money, ability to perform paid employment or outside work, ability to travel
Geriatric Problems

- Immobility
- Instability
- Incontinence
- Intellectual impairment
- Infection
- Impairment of vision and hearing
- Irritable colon

- Isolation (depression)
- Inanition (malnutrition)
- Impecuniosity
- Iatrogenesis
- Insomnia
- Immune deficiency
- Impotence
Confusion

• 5% of older than 65 y/o, 20% of those older than 75 y/o

• As a mental state in which reaction to environmental stimuli are inappropriate

• DD of confusion:
  – Delirium (acute)
  – Dementias (more slowly)
  – Impaired cognitive function associated with affective disorders and psychoses
Depression

• Biological factor
  – Family history, aging changes in neurotransmission

• Physical
  – Specific diseases, chronic medical conditions, sensory deprivation, loss of physical function

• Psychological
  – Unresolved conflicts, memory loss and dementia, personality disorders

• Social
  – Losses of family and friends, isolation, loss of job, loss of income
Incontinence

- Basic causes incontinence
- Acute causes incontinence
- Persistent causes incontinence
Acute and reversible forms of urinary incontinence

- D delirium
- R restricted mobility, retention
- I infection, inflammation, impaction (fecal)
- P polyuria, pharmaceuticals
Types of persistent incontinence

Urge            Stress

Functional      Overflow
Instability and falls

Complications of falls in the elderly

• Injuries
  – Painful soft tissue injuries
  – Fracture: hip, femur, humerus, wrist, ribs
  – Subdural hematoma

• Hospitalization
  – Complications of immobilization
  – Risk of iatrogenic illnesses

• Disability
  – Impaired mobility due to physical injury
  – Impaired mobility from fear, loss of self-confidence, and restriction of ambulation

• Risk of institutionalization

• Death
Immobility
Common causes

- Musculoskeletal disorders
  - Arthritides, osteoporosis, fractures...
- Neurological disorders
  - Stroke, parkinson’s disease....
- Cardiovascular diseases
  - CHF (severe), CAD.....
- Pulmonary diseases
  - COPD (severe type)
- Sensory factors
  - Fear, impairment vision
- Environmental causes:
  - Forced immobility.....
- Others:
  - Malnutrition, malignancy, depression...
Complications

• Skin: pressure sores
• Musculoskeletal: muscular atrophy...
• Cardiovascular: thrombosis, embolism
• Pulmonary: pneumonia, atelectasis
• GI: constipation, anorexia, impaction
• GU: incontinence, infection, retention
• Metabolic: impaired glucose tolerance, altered drug pharmacokinetics
• Psychological: depression, dementia, delirium
Other problems.

- Silent Acute MI.
- Small Bowel ischemia.
- Bowel Dysmotility.
- Poly Pharmacy
General management

- Iatrogenesis
- Drug therapy
- Developing clinical expectations
- Long-term-care resources
- Nursing home care
Note: Policy Projections must recognize that:
1. Old age dependency will rise from 11.9 to 28.2 (2001-2051)
2. 80+ persons are fastest growing segment of elderly
3. Old females will outnumber old males
GREAT HETEROGENEITY OF OLDER PERSONS

Disraily’s quote: Youth is a blunder, manhood is a struggle & old age is a regret---no longer valid

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<tr>
<th>OPTIMISED</th>
<th>MARGINALIZED</th>
<th>VULNERABLE</th>
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<tbody>
<tr>
<td>Fit, healthy</td>
<td>Frail, disabled</td>
<td>Women</td>
</tr>
<tr>
<td>SE adequate</td>
<td>SE deprived</td>
<td>Migrants</td>
</tr>
<tr>
<td>Care access</td>
<td>Inaccessible</td>
<td>Slum dwellers</td>
</tr>
<tr>
<td>More males</td>
<td>More females</td>
<td>Mentally disable</td>
</tr>
<tr>
<td>60-75 age</td>
<td>&gt; 75 age</td>
<td>Physically disabled</td>
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60+ POPULATION IN INDIA
URBANIZATION AND WORK PARTICIPATION

- Work participation decreased in rural and urban areas by 27% and 40%
- Rural participation is double of urban work work participation (1996)
- 70-75% of elderly engage in social, religious and house-hold activities

Source: Rajan: India’s Elderly 1998; NSSO Survey 1998
NATIONAL PROGRAMMES AND SERVICES

National Policy of Older Persons (NPOP)
National Initiative on Care for Elderly (NICE)
National Institute of Social Defence (NISD)
Integrated Programme for the Elderly (NGOs)

Welfare Schemes and Facilities for Elderly:
  Ministries of Social Justice, Finance, Health, Law, Rural Development, Railways, Road Transport, Civil Aviation, Food & Public Distribution

National Programme for Health Care of the Elderly
National Institute on Aging (NIA): Two in the offing