

Health Care of the Elderly

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Who is the Elderly?

Classification According to WHO:

- ▶ Elderly 60 years +
- ▶ Eldest elderly (very old) 80 years

Another classification :

- ▶ Young old: 65 – 74 y
- ▶ Old: 75 - 84 y
- ▶ Old old: 85 +

Health care of the Elderly

Aging (growing old):

- ▶ Natural progressive decline in body systems that starts in early adulthood , but it only becomes obvious several decades later & this is when we call ourselves old.

Gerontology:

- ▶ Is the study of biological, psychological, social & environmental aspects of aging.

Geriatrics :

- ▶ Is the branch of medicine dealing with health care of the aged.

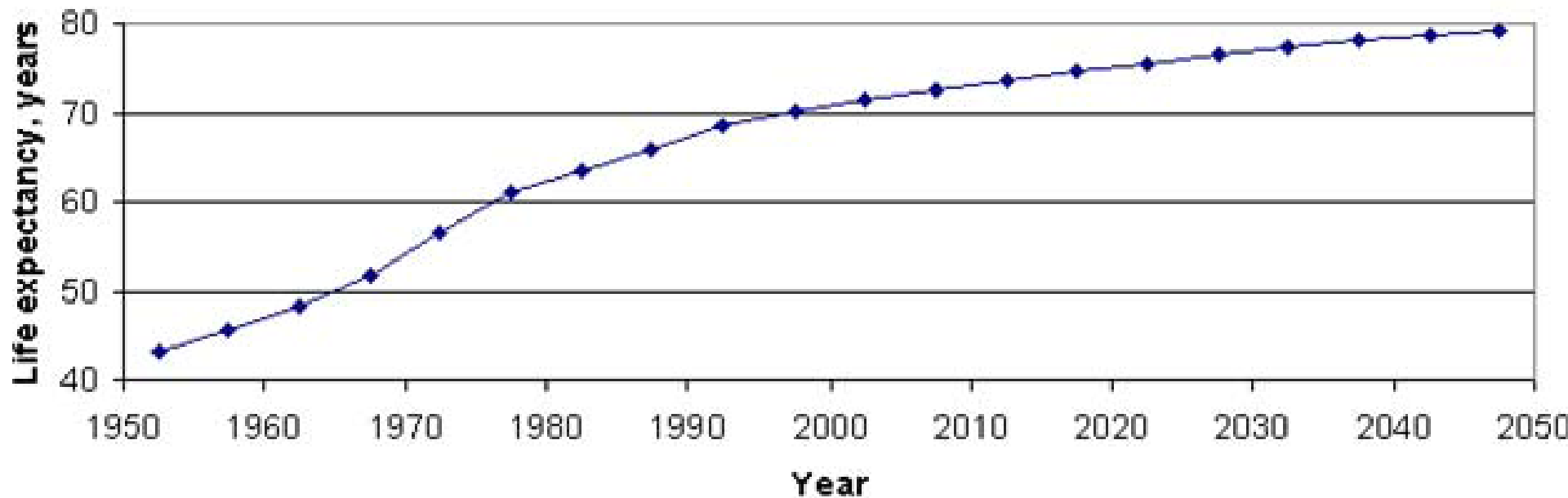
Magnitude of the problem

- **Increase in the absolute & relative numbers of older people** in both developed & developing countries.
- A phenomenon referred to as "**population Aging**"
- Of the approximately **580 million** elderly people (60 years & more) in the world today, around **355 million** live in developing countries.

Magnitude of the problem

- **By 2025** more than 1 000 million people aged 60 years & older will be living in the world, more than **700 million** of them in developing countries .
- **In Jordan, 3.5 %** of the population is above **65**, i.e. there are nearly **190.000** Jordanian in that category (2003); a figure that is expected to reach **420.000**. representing **5.3 %** of the population, by **2025**.

Figure 2.3: Life Expectancy at Birth, Jordan



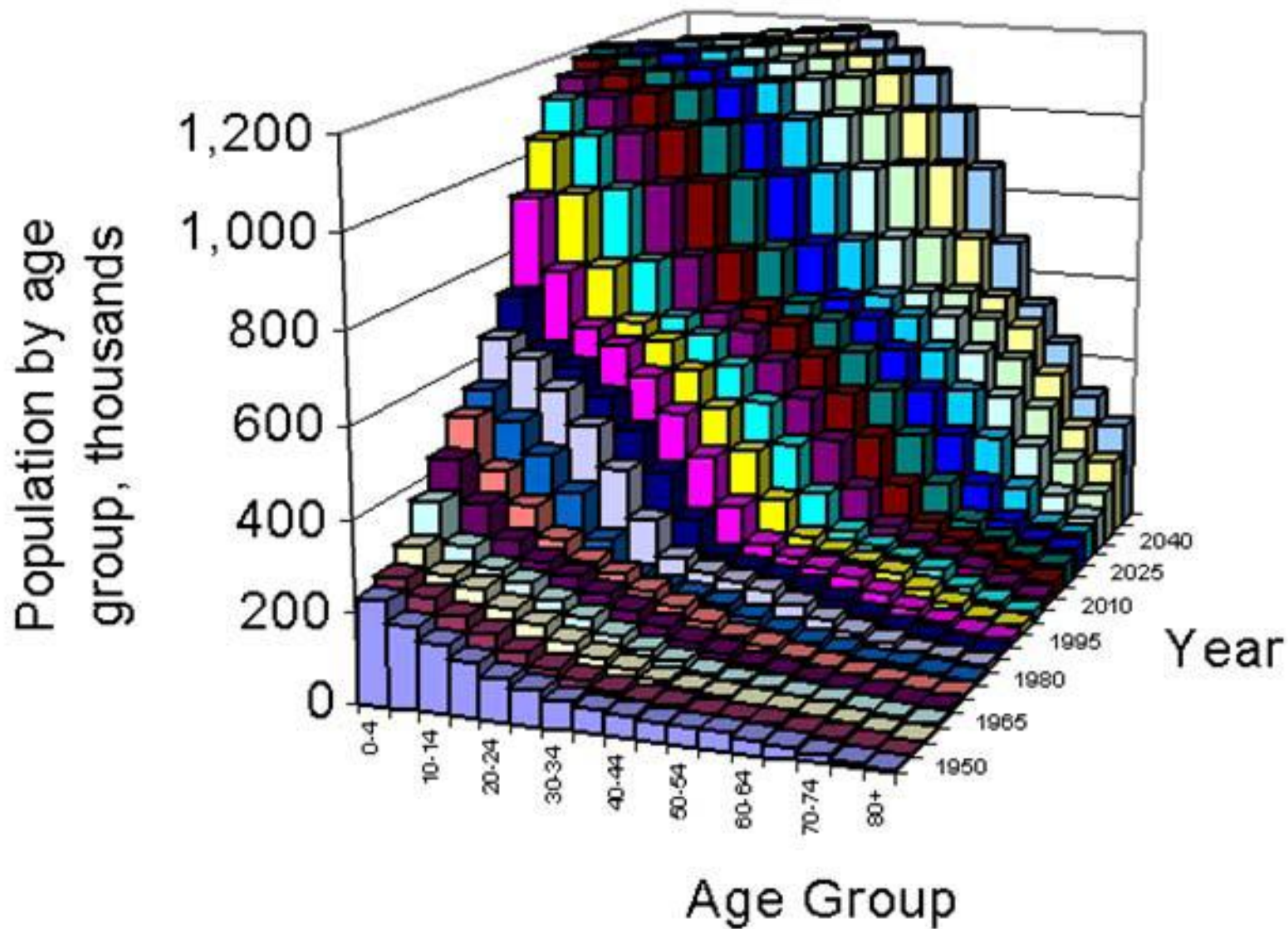
Source: United Nations Population Division, 1998 World Population Prospects

Projected Populations by Specific Age Groups for Jordan

Year	Total Pop (000)	Children <15years		Elderly 65+		Dependency Ratio
		Total (000)	%	Total (000)	%	
2003	5.48	2.08	38	0.19	3.5	71
2008	6.13	2.14	34.9	0.26	4.2	64
2013	6.75	2.15	31.9	0.33	4.9	58
2019	7.43	2.19	29.5	0.37	5.0	53
2025	7.99	2.07	25.9	0.42	5.3	45

Source: Department of Statistics, 2003 (Jordan Public Health Expenditure Review, 2004).

Figure 2.3: Jordan's Changing Age Distribution



Health problems of the aged

1. **Impairments and losses due to the ageing process :**
 1. Elevated blood pressure
 2. Decreased immune response
 3. Reduced visual , auditory & olfactory acuity
 4. Osteoporosis & fractures
 5. Slowing of mental response

Health problems of the aged

II. Problems associated with long-term illness :

I. Cardiovascular diseases:

- ▶ Hypertension , atherosclerosis , cerebrovascular and peripheral vascular diseases.

Diet , heredity , overweight , smoking , diabetes , hyperlipo-proteinmeia & stress; all have been implicated as **risk factors** for cardiovascular diseases.

Health problems of the aged

2. Cancer:

There are characteristic features of carcinoma of the aged:

A. Age distribution:

- ▶ The incidence of cancer differs in the different decades of life of the age.
- ▶ **Cancer is less frequent in (70 – 80) & (80 – 90)**
- ▶ It seems that if an old individual passes the age of 70 years without dying of cardiovascular or malignant condition , he has a better chance of survival & when he finally dies it is less frequently from cancer .

Health problems of the aged

B. Site of cancer:

- ▶ It differs in elderly from young. the commonest cancers affecting the aged is the stomach followed by colo-rectal cancer followed by bronchus.

C. More than one cancer :

- ▶ In some aged patients, on postmortem examination more than one malignant growth may be found .

Health problems of the aged

D. Non –fatal cancer:

- ▶ These may be found during autopsy of individuals died from any other cause rather than malignancy such as pneumonia or myocardial infarction.
- ▶ The commonest non fatal cancer detected in the aged is **cancer breast** or **ovary** in females & cancer **prostate** males.

Health problems of the aged

3. Accidents

- ❑ **Falls** occur frequently among elderly persons.
- ❑ **Three most common fracture sites:**
 - ▶ Fracture neck femur
 - ▶ Vertebrae
 - ▶ Distal forearm (Colle's fracture)
- ❑ The principle contributing factor is **osteoporosis.**

Health problems of the aged

4. Diseases of loco motor system:

- ▶ Myositis, gout, rheumatoid arthritis, osteoarthritis, Spondylitis.
- ▶ These conditions cause more discomfort & disability than any other chronic disease in the elderly.

5. Respiratory diseases & infections:

- ▶ Pneumonia, bronchitis (acute & chronic), T.B, pulmonary embolism, and bronchogenic carcinoma are the diseases more common in aged.

Health problems of the aged

6. Diabetes:

- ▶ It is a leading cause of death as the population grows older.

7. Genitourinary systems:

- ▶ There is progressive **sclerosis of glomeruli** with aging. with the development of **athermatous renal vascular** disease, these changes result in **reduction in GFR.**

Health problems of the aged

- ▶ Serum creatinine should not be used as a renal function test in old, because there is decrease in the muscle mass which is the source of creatinine.
- ▶ **If serum creatinine is normal in elderly people, we should assume that there is 40% reduction of renal function.**

Health problems of the aged

- ▶ **Urinary tract infections** are common in elderly due to impaired bladder emptying.
- ▶ **Urinary incontinence** is one of the major disabilities in the elderly.
- ▶ **Estrogen deficiency** in post – menopausal females leads to atrophic urethrities, weakness of the pelvic floor muscles which leads to stress incontinence,

Health problems of the aged

8. Malnutrition:

The elderly often have special nutritional requirements due to:

- ▶ Reduced intake, (poor dentition, loneliness, poverty, ignorance)
- ▶ Physical or mental diseases.
- ▶ Medication use.
- ▶ Functional status (dependence & immobility)

To Maintain Proper Health , Certain Rules Must Be Respected;

Health problems of the aged

1. **Adequate water intake is very important to:**
 - ▶ Maintain proper healthy state of tissues
 - ▶ Proper kidney function
 - ▶ Maintain digestive secretions
 - ▶ Avoid constipation
2. **Type of food: should be easy to digest, appetizing, nourishing, containing good amount of mineral salts, trace elements & vitamins.**
3. **Animal fat should be substituted by vegetable oil**
4. **Protein intake should be reduced.**

Health problems of the aged

9. Decrease the immunity:

Due to changes in their immune system,

- ▶ decrease number of lymphocytes,
- ▶ T cell response decrease in elderly which leads to increase their susceptibility to infections & malignancy.
- ▶ Suppressor T cells decrease, so there is increase incidence of auto-antibodies .

Health problems of the aged

10. Digestive system problems:

- ▶ Most of the digestive symptoms in old people are due to functional bowel disturbances.
- ▶ **Inadequate mastication** (absent teeth) will allow large particles of food to reach the intestine, rapid passage of food results in incomplete digestion.
- ▶ **Impaired absorption:** greater amount of food will reach the caecum giving rise to colonic disturbance.
- ▶ There is high incidence of **constipation**, irregular bowel habit.

Health problems of the aged

III. Psychological problems:

- ▶ The intellectual functions are reduced,
- ▶ The speed of learning decreases,
- ▶ Gradual loss of memory specially for recent events.
- ▶ There is psychological disturbance & emotional instability in the form of senile dementia, depression, anxiety.

Health problems of the aged

IV. Iatrogenic complications:

- ▶ **Multiple chronic diseases:** the greater the number of chronic diseases, the greater the risk that treatment of one disease exacerbate others.

For examples:

- ▶ Treatment of arthritis with a non – steroidal anti-inflammatory drug may exacerbate renal failure or chronic gastritis.
- ▶ Use of multiple or inappropriate drugs: increases the risk of drug interactions.
- ▶ Hospitalization: increase the risk of noso-comical infection



Prevention health care for the elderly

The goal of preventive medicine in the elderly is:

1. The reduction of morbidity and premature mortality
2. The preservation of function and quality of life.

Prevention health care for the elderly

Primary prevention:

Primary prevention aims at:

- A. Preventing or delaying diseases.
- B. It precedes disease or dysfunction and is applied to a generally healthy population.

Primary preventive measures for the elderly include:

- A) Promoting healthy lifestyles to reduce the risk of chronic diseases
- B) Use of medications to reduce the onset of illness
- C) Increasing Adult Immunization Rates
- D) Reducing Injuries
- E) Prevention of Iatrogenic Complications.
- F) Prevention of Psychosocial Problems

A. Promoting healthy lifestyles to reduce the risk of chronic diseases:

- I. Being physically active** (being moderately physically active for **half an hour on 5 days** or more of the week) substantially:
 - ✓ Reduce the risk of high blood pressure and coronary heart disease
 - ✓ Decreases the risk of colon cancer and diabetes ,
 - ✓ Also helps older people to reduce their risk of falls,
 - ✓ Reduce anxiety and depression,
 - ✓ Maintain a healthy body weight, and maintain joint strength and mobility .

Promoting healthy lifestyles to reduce the risk of chronic diseases:

- 2. Avoiding tobacco use:** dramatically reduces the risk of premature death & disability from coronary heart diseases, lung cancer & emphysema.
 - ▶ A smoker's risk of heart disease begins to fall almost immediately after quitting; regardless of how long that person has smoked

Promoting healthy lifestyles to reduce the risk of chronic diseases:

- 3. Eating a healthy diet:** lowers a person's risk for many chronic diseases, including coronary heart disease , stroke, some cancers, diabetes, and osteoporosis.
 - ▶ Good nutrition **decreases overweight** , it can also decrease the **risk of the disabilities associated with arthritis.**
 - ▶ Older adults should limit dietary fat intake to less than 30% of total calories, maintain a balanced diet, and eat plenty of fruits & vegetables, whole-grain products and legumes containing fiber.

B. Use of medication to reduce the onset of illness:

I. Postmenopausal Hormone replacement therapy:

- ▶ Hormone replacement therapy (HRT) has many **Positive effects**: It improves cholesterol, sexual functioning and reduces osteoporosis & fracture risk.
- ▶ However, on the **negative side**, HRT may increase the risk of breast cancer & can cause irregular bleeding.
- ▶ **The decision to take hormone for prevention is controversial.** Health care professional discuss the **benefits and risks** of hormone replacement therapy with all menopausal patients.

B. Use of medication to reduce the onset of illness:

2. Aspirin to Prevent Cardiovascular Disease:

- ▶ Aspirin is used in the prevention of **heart attacks** in middle aged and older men.
- ▶ Aspirin therapy also was found to be beneficial for those with pre-existing heart disease or stroke to prevent **further heart attacks or strokes**.
- ▶ However, aspirin therapy has some **undesirable side effects**, including stomach upset, bleeding, or ulcers.
- ▶ **Very low doses of aspirin**, taken **every other day**, are effective and are associated with fewer side effects than higher doses.

C. Increasing Adult Immunization Rates

- ▶ An annual **influenza** vaccination & a **pneumococcal vaccine** are recommended for all elders **over 65** years with normal immune systems.
- ▶ A primary series of **tetanus vaccine** followed by booster every 10 years is also recommended.

D. Reducing Injuries

I. Home hazards:

a) Falls and fractures:

Inducing personal conditions:

- ▶ Visual abnormalities,
- ▶ Musculoskeletal and neurological diseases,
- ▶ Depression, dementia, and hypotension.

Risk factors in the environment:

Unsafe Environment

1. Inadequate lighting,
2. Slippery floors /stairways,
3. Improperly arranged furniture, loose carpets

Reducing Injuries

Simple, home-based prevention measures as:

1. Arranging **furniture** so that pathways are not obstructed,
2. **Removing tripping** hazards, installing grasp bars and handrails,
3. **Improving lighting** can significantly reduce elder's risk of falls and associated fractures.
 4. **Prevention of Osteoporosis: Osteoporosis is significantly retarded by post-menopausal estrogen replacement therapy, and probably by regular exercise and supplemental calcium intake throughout adulthood.**

Reducing Injuries

- ▶ **b) Burns:**
- ▶ Persons with **peripheral neuropathy** are at increased risk of burns from excessively hot water.
- ▶ For persons with **dementia**, using electrical and gas appliances is particularly dangerous; the **use of alarms and automatic shut-off features** on appliances can help.
- ▶ **Smoke detectors** should be installed and maintained.

Reducing Injuries

2. Driving hazards:

- ▶ All elderly persons should be reminded to use **belts** and to **refrain from driving** when under the influence of alcohol or psychoactive drugs.

E) Prevention of Iatrogenic Complications

- ▶ **Elderly care requires a coordinated teamwork for planning acute or long-term care to prevent:**
 - 1. Duplication of services**
 - 2. Complications caused by multiple or inappropriate drug use.**

F) Prevention of Psychosocial Problems

A sense of self-worth may contribute to better health:

1. Remaining productive
2. Engaging in leisure and household activities
3. Performing volunteer work
4. Feeling needed by someone enhance self-worth: الإحساس بقيمة الذات



II. Secondary prevention (increasing use of early detection practices)

- ▶ It seeks to **Detect and Treat existing health problems at the earliest possible stage**, so that interventions may lead to **cure, prevention of complications and premature death.**

Screening tests for the elderly can be applied

II. Secondary prevention

The different forms of screening tests recommended for everyone over age sixty:

- ▶ **As part of a health interview:** the clinician questions the patients regarding behaviors that put them at risk for disease or injury, such as high-fat diet, smoking, stress...etc.
- ▶ **Screening practices can be an integral part of the clinical examination.**

II. Secondary prevention

- ▶ Obtaining information regarding the patient's health history and family history is a type of screening.

Screening done in examination include:

1. measurement of weight and blood pressure,
2. vision, and hearing,
3. pulmonary function,
4. examination of **body organs for cancers**
e.g. oral cavity, breasts, abdomen, testicles,
prostate and skin
5. dental health assessment.

II. Secondary prevention

Laboratory tests can be used for
Screening of particular diseases for
example:

- ▶ Measurement for anemia,
- ▶ Diabetes,
- ▶ Elevated cholesterol,
- ▶ ECG.

II. Secondary prevention

Screening can entail more elaborate tests e.g. :

- ▶ Mammography for cancer breast,
- ▶ Sigmoidoscopy for colorectal cancer,
- ▶ Endometrial biopsy for uterine cancer ,
- ▶ X-ray or CT (computed tomography) for osteoporosis.



III. Tertiary prevention

- ▶ Despite the best efforts of primary and secondary prevention and health promotion, the majority of older persons will develop one or more potentially disabling medical conditions.

Under these circumstances the goals of health care, will be:

- ▶ Early medical or surgical intervention and
- ▶ Rehabilitation, or continuing supportive care to limit disability for highest level of independence of individuals.

III. Tertiary prevention

Components of such tertiary prevention include both:

- ▶ Specific interventions for individual disabling conditions,
- ▶ Comprehensive geriatric assessment (CGA).

III. Tertiary prevention

Disease – specific case management:

- ▶ Disease management is enhanced by the use of disease **specific practice guidelines & protocols.**
- ▶ **In chronic care clinics, patients are taught in groups and are visited by a nurse or physician;**
- ▶ This approach can help patients with chronic disease such as **arthritis, diabetes and heart failure**

III. Tertiary prevention

Comprehensive geriatric assessment (CGA):

- ▶ It is **multidimensional, multidisciplinary diagnostic** process
- ▶ Used to determine **medical, functional, and psychosocial problems and capabilities** in an elderly patient
- ▶ In order to arrive at a **comprehensive plan for therapy and long-term follow up.**

III. Tertiary prevention

The processes of CGA programs

- ▶ CGA program involves the **patient, the caregiver, family members**, and other important persons in the individual's environment.
- ▶ **A care team** most often consisting of a **geriatrician, a geriatric nurse practitioner, a social worker and a gero-psychiatric.**
- ▶ The assessment begins with **utilization of screening instruments and techniques.**

III. Tertiary prevention

Community-based services:

- ▶ Several forms of community-based adult day care have been established to meet the elderly and families needs.

The most common forms are:

1. **Adult day-care centers (elderly clubs):**
2. **Adult day health centers (day hospitals):**

III. Tertiary prevention

3. Residential institutional care facilities;

- ▶ Many **fragile elders** choose institutional care because they **do not want to be a burden** to their family members who are not capable of caring for them, or **they have no family**.

Examples:

- A. Elderly homes:** are designed for those who need rooms and assistance **with personal care, but medical care is not needed.**

III. Tertiary prevention

B. Nursing homes:

- ▶ are designed for those who **need 24 hours care**
- ▶ **Supervision by health professional.**
- ▶ **They meet the needs of chronically ill** or who are recovering from an accident or acute illness and need extended medical care but not hospitalization.