

SYRIA

OVERVIEW

Interest in osteoporosis in Syria started in 1994. It began with activities on a private basis by opening the first Osteoporosis Consulting Center at the Italian hospital. Later the Minister of Health encouraged this initiative and the Osteoporosis Medical Council was formed; it started promoting knowledge and awareness of osteoporosis among healthcare professionals and the general public. In 2005, The Syrian National Osteoporosis Society (SYNOS) was established as a nongovernmental and nonprofit organization. SYNOS' main objectives are to raise public awareness of osteoporosis and its prevention and treatment.

SYNOS is a founding member of the Pan Arab Osteoporosis society (PAOS) and active member of the International Osteoporosis Foundation (IOF).

SYNOS' activities are many and varied including:

- Frequent lectures to medical doctors of all concerned specialties.
- Frequent general public lectures and exhibitions.
- Schools orientation activities, with educational osteoporosis programme and workshops.
- Exercise awareness with frequent walks in which many of our members and members of the public participate.
- Occasional dinner-dances where osteoporosis is the key issue.
- Regular advertisements and media interviews, regular articles in local and Arab newspapers and magazines.
- Annual WOD activities, including conferences, sport competitions and Q&A for adults and children, expositions, bone-oriented restaurant mats, meet-the-expert sessions, disseminated posters and brochures, free DXA scans. These activities attract high media coverage.
- Regular Free US bone density examination in many public centres.
- Active SYNOS website with all necessary information about the disease and the society: www.sy-nos.org

SYNOS organized the 4th IOF Osteoporosis Diagnosis Course in Damascus (2009) and chaired the 5th Pan

Arab Osteoporosis Congress in collaboration with IOF, held in Damascus in April 2010.

SYNOS has produced several publications including a nutrition booklet, osteoporosis information magazine with prevention and treatment guidelines, a children's book and CD, a high calcium recipe book, and One-Minute Osteoporosis Risk Test leaflets.

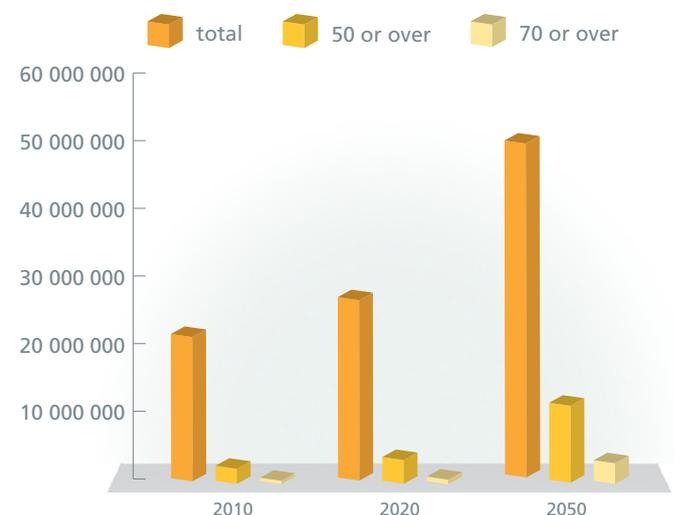
The health authorities have shown some interest on the disease but it is still not recognized as a major healthcare problem. The main priorities are:

- Family planning and birth rate reduction
- National hip fracture registry
- National Syrian Guidelines for Osteoporosis
- Increasing the number of DXA machines
- Vitamin D measurement, and deficit prevention

KEY FINDINGS

The present population in Syria is estimated to be 22 million, of this 11% (2.3 million) is 50 years of age or over and 2% (0.5 million) is 70 or over. By 2050, it is estimated that 15% (4 million) of the population will be 50 or over and 3% (8 million) will be 70 or over while the total population will increase to 51 million (*fig 1*).

FIGURE 1 Population projection for Syria until 2050



REF US Census Bureau

EPIDEMIOLOGY

Unfortunately there is a lack of official statistics about the incidence of osteoporosis, and no special national fragility fracture registry currently in Syria. Records in hospitals are well documented but they are difficult to obtain for statistical purposes after the patient has been discharged.

The figures stated in this audit were calculated by:

- considering the increase in population of 3.2% annually
- considering the population above 50 years of age at 10.4 % as in 2010
- the estimated number of hip fractures in 2010

Hip fracture

A hip fracture registry was set up in 2001 (running from January 1st to June 30th).

The aim was to collect 1000 case histories which were taken from the private clinic of a reputable orthopaedic surgeon and a middle-sized, 500-bed general hospital. Unfortunately it was not followed through due to lack of interest from official sources and the movement of interested resident doctors to other hospitals. The results are available.

Interest was again triggered in 2009 and new data were collected from the following sources:

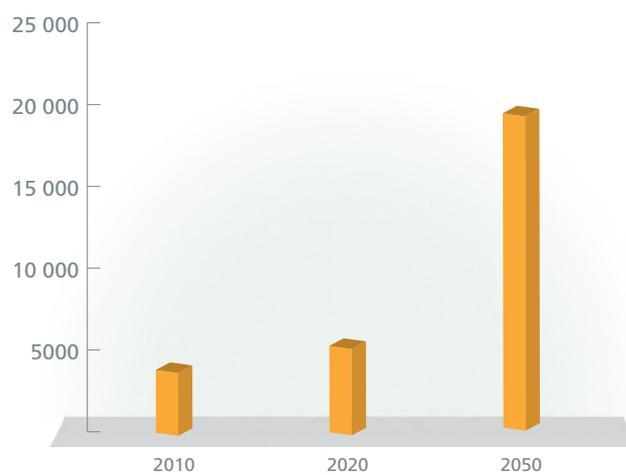
- Damascus Assembly Hospital, the largest health service hospital in Damascus (2500 beds) which provides the main accident and emergency department for the city.
- Mouasat Hospital, the main teaching hospital in Damascus with 2500 beds and the second largest accident and emergency department in the city.
- The orthopaedic medical supply companies which provide the materials used in treating fractures.
- The Osteoporosis Centre, Italian Hospital - information and records collected during DXA scans are used by SYNOS for statistical purposes (but as it only services the private sector it has its limitations).
- Private medical clinics.

TABLE 1 Costs of hip fractures (USD)

	DIRECT HOSPITAL COSTS PER CASE	INDIRECT HOSPITAL COSTS PER CASE	TOTAL COSTS FOR HIP FRACTURES/YEAR	BED DAYS (STATES HOSPITAL)
2011	2500	1000	22 000 000	12
Projections to 2020	5000		44 000 000	-
Projections to 2050	10 000		-	-

In Syria, it is estimated that there are around 4000 hip fractures per year and this number will increase to 5500 hip fractures to 2020 and could be between 15 000 to 20 000 cases in 2050 (fig 2).

FIGURE 2 Number of hip fractures per year and projections until 2050



In Syria, 70% of hip fractures are surgically treated.

After a hip fracture, the loss of productivity at the workplace is estimated to be 6 months and only 50% of patients regain their normal life style after a hip fracture (table 1 and 2).

Vertebral fracture, other fragility fractures

It is estimated that there are about 15 000 vertebral fractures per year of which only 20% are treated by a doctor. In addition, there are an estimated 40 000 other fractures associated with osteoporosis in Syria each year.

DIAGNOSIS

In Syria, there are 20 DXA machines and 6 QUS machines, and these are only available in urban centres. The cost of a DXA scan is 2500 SL /USD 50 and 500SL/

TABLE 2 Costs and bed days' comparison with other diseases

	TOTAL COSTS (USD)	BED DAYS
Breast cancer	200 000 000	3 days + 30 days as out patients
Ovarian cancer	11 000 000	5 days + 30 days
Prostate cancer	12 000 000	3 days + 30 days
Heart disease	55 000 (1 patient)	3-20 days
Pulmonary disease	55 000 (1 patient)	5-20 days

*Adapted from MOH and National Cancer Registry Society

USD 10 for a QUS. The length of waiting time for DXA scan is 1 day.

REIMBURSEMENT POLICY

DXA and QUS scans are reimbursed only for State employees. Recently, some private health insurances offer reimbursement, but with a lot of restrictions.

Locally produced medicines are reimbursed.

CALCIUM AND VITAMIN D

Vitamin D measurement is expensive in Syria and just available in a few laboratories.

A private clinic study was conducted to assess the prevalence of vitamin D deficiency among 120 women over the age of 40. It showed that 75% have 25(OH)-vitamin D level below 25nmol/L.

Calcium and vitamin D supplements are available as well as fortified milk and juice.

SYNOS is conducting a school project aiming to highlight the importance of vitamin D and calcium- rich nutrition to strengthen bones and prevent osteoporosis.

In addition, SYNOS organizes regular breakfast conferences where nutritionists assess the benefit of calcium and vitamin D fortified food.

PREVENTION, EDUCATION, LEVEL OF AWARENESS

Today osteoporosis is not yet recognized as a major health problem in Syria.

Programmes in lifestyle prevention and guidelines regarding osteoporosis exist through SYNOS awareness programmes and some general magazine publications.

The level of awareness among individuals is fair thanks to SYNOS regular activities such as lectures to health professionals and the public, exhibitions, publications, schools awareness programmes, media involvement, courses and congress, and the website.

RECOMMENDATIONS

- In general, allied health professionals are poorly equipped and trained to participate in the care of patients with osteoporosis. Training and continuous medical education should be improved so they could also elevate the level of knowledge and understanding of their patients.
- The Government should upgrade the priority of osteoporosis in future health plans and manage fracture registries.
- A National Osteoporosis Guideline is now under development and will be disseminated to health professionals.
- Training and continuous medical education for the health professionals and medical doctors should be improved to increase the level of knowledge and understanding of their patients.
- The Ministry of Health should upgrade the priority of osteoporosis in future health plans by: increasing the number of DXA machines in public hospitals, helping to conduct a large nationwide study that includes both sexes for the prevalence of osteoporosis and the status of vitamin D in Syria, and managing a fractures registry.
- Increasing media involvement is important to highlight the burden of the disease, and the possibility of prevention and treatment.