



IAEA

International Atomic Energy Agency

Atoms for Peace

September 2010

Preventing osteoporosis in Asia and the Pacific

The challenge...

Osteoporosis, which is a skeletal disease characterized by low bone density and general deterioration of bone tissue, is a major health problem for the elderly. Although osteoporosis cannot be cured, its progression can be slowed and actions can be taken to prevent and manage the disease. Nuclear techniques can be used to measure bone density, diagnose osteoporosis, as well as assess calcium content and bioavailability from the indigenous diet. By 2050, it is estimated the population of Asia will include 900 million men and women above 65 years of age. Hip fractures in the region are likely to reach 3.2 million per year. Preventive strategies for osteoporosis in Asia and the Pacific are necessary.

The project...

Under the project, participating Member States received training on nuclear techniques to measure calcium bioavailability from foods as well as bone mass density. Expertise was provided to assist with the development of study protocols and work plans and to support sample preparation for the measurement of calcium bioavailability in post-menopausal women. Data collected through the project will be used to develop and evaluate nutrition programmes that focus on the prevention of osteoporosis.



The impact...

- This project has contributed to strengthening national and regional initiatives to develop food based strategies to prevent osteoporosis and to increase access to diagnostic facilities.
- New information on calcium bioavailability from locally available, calcium rich foods has been generated, which can be used to promote the consumption of these food within the region.
- Results from China showed that calcium carbonate was not an optimal calcium compound for food fortification, and that an additional 250 mg calcium per day was not sufficient to improve the bone mass density of post-menopausal women. These results are very important for the further development of food based strategies to prevent osteoporosis in populations with low calcium intake.

Technical cooperation project RAS/6/041: Preventing Osteoporosis and Promoting Bone Mass in Asian Populations Using a Food-based Approach (RCA)