Assessment of Risk for OSTEOPOROSIS

Osteoporosis is a major global public health problem associated with significant morbidity, mortality, and socioeconomic burden. Osteoporosis is a silent disease, reflected only in a low bone density, till a fracture occurs. Much in the manner that asymptomatic conditions such as hypertension and dyslipidaemia predispose to stroke and myocardial infarction, respectively, a low bone density predisposes to osteoporotic fractures. With increasing longevity of the Indian population, it is now being realized that, as in the West, osteoporotic fractures are a major cause of morbidity and mortality in the elderly. The total affected population would, therefore, be around 25 million. If the lower bone density is shown to confer a greater risk of fracture, as is expected, the figure can increase to 50 million. Osteoporosis has become a formidable public health problem in India and a multidisciplinary approach is needed to identify its aetiological factors and devise strategies for mass prevention. **On 17th of October 2014 the student body of Fortis Institute of Nursing put up an exhibition on "Osteoporosis" in the OPD of Fortis Hospital, Mulund.**

Osteoporosis can be prevented and treated if diagnosed early and accurately. Unfortunately, as said, it is often undiagnosed until a fracture occurs. Measuring bone mineral density (BMD) is the most important tool in the diagnosis of osteoporosis**.** Therefore, the number of people who must be screened for this disease must begin at an earlier age, though WHO proposes at 50 years of age with no risk factors. **The main objective of the exhibition was to educate the visitors on various aspects of Osteoporosis, its early diagnosis, prevention aspects so as to be able to prevent osteoporotic fractures. The exhibition also provided a free assessment of osteoporosis using the FRAX scale and BMD test for the visitors.**

The campaign consisted of:

- Flex print posters on:
    - Meaning of osteoporosis
    - Magnitude of the problem
    - Risk factors of osteoporosis
    - Causes of osteoporosis
    - Pathophysiology of osteoporosis
    - Tests done for screening and diagnosis
    - Management which includes drugs and surgery
- A model showing the do's and don'ts related to osteoporosis
- Food counters depicting the dietary aspects to prevent osteoporosis
- Health assessment counter which included assessment **using the FRAX scale** and assessment of height, weight and Bone mineral density
- A role play on osteoporosis- risk factors, causes and its harmful effects

The programme was inaugurated jointly by Ms. Minimole Varghese, Chief of Nursing and Ms. Purwa Duggal, Administrator, Fortis Hospital, Mulund. Other dignitaries also accompanied them. They were impressed by the presentations and congratulated the students.

Doctors, nurses, patients and their relatives and other relatives penned their valuable comments towards the exhibition.

The response to the exhibition is summarised as follows:

- Informative and useful 40
- Useful and Well Presented 23

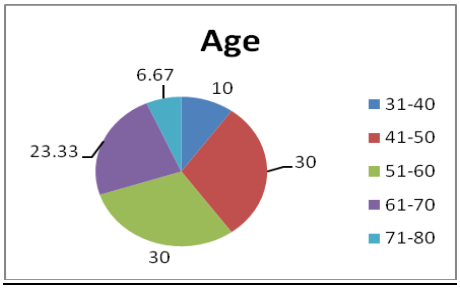
- Well explained and interesting 68
- Co ordination and group cooperation 5
- Well planned and executed and Creative work 8
- Role play performance and clear message 22

FRAX scale and BMD assessment was done for 60 respondents. The FRAX tool was developed in 2008 by the WHO to calculate the risk of fractures in women and men from several clinical risk factors (CRF), with or without the measurement of femoral neck BMD. The clinical risk factors included in the FRAX algorithm are: age, sex, weight, height, previous fracture, parental hip fracture, current smoking, glucocorticoids, rheumatoid arthritis, secondary osteoporosis and alcohol intake (≥ 3units/day). It is applicable to people aged 40–90 years.

Fracture risk is currently assessed opportunistically. GP records are now universally computerised and contain information that may be useful in identifying patients at high risk of fracture (for example, age, record of prescriptions, major diagnoses and previous fracture). Through this short study we aimed to identify people at high risk by using risk assessment FRAX tool and assessing their BMD scores. The respondents with high risk-factor estimation were guided to meet the physician either at Fortis or a physician of their choice. This could result in a more effective and efficient use of staff time and health service resources than an opportunistic approach.

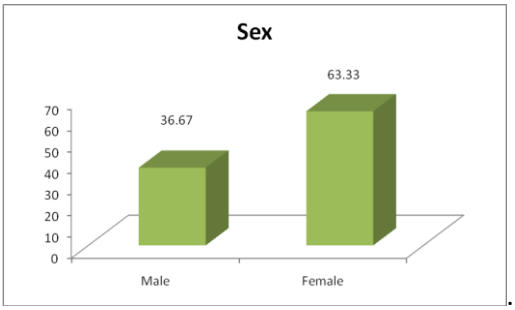
The results of this assessment is summarised as follows:

Percentage distribution of respondents according to age:



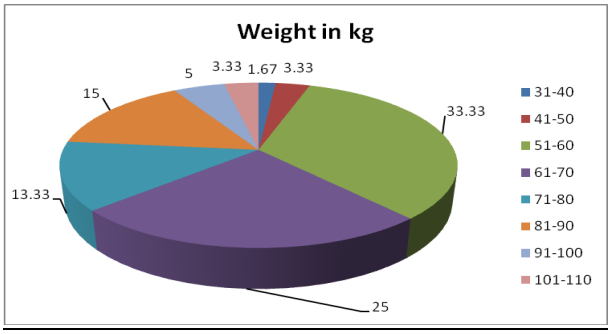
90% of the respondents were above 40 years of age.

Percentage distribution of respondents according to gender:



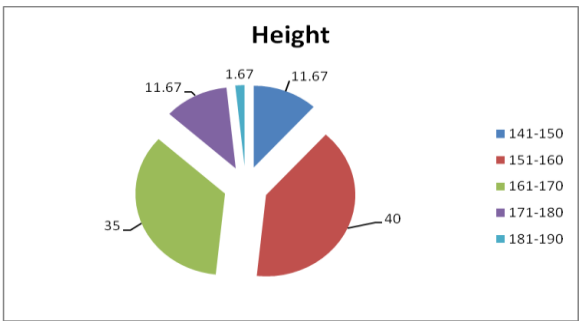
63.33% of the respondents were Females. Maximum number of these respondents (94.12%) was above 40 years of age.

Percentage distribution of respondents according to weight.



The weight of 33.33% of the respondents was between 51-60 kg.

Percentage distribution of respondents according to height.

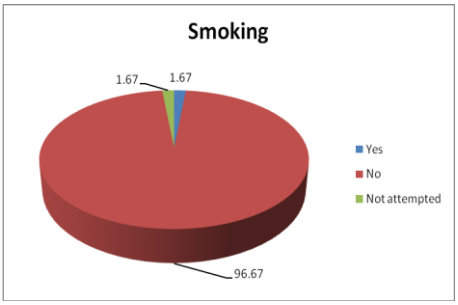


The height of 40% and 35% of the respondents was between 151-160 cms. and 161-170 cms. respectively.

Calculated BMI for the above respondents is: -

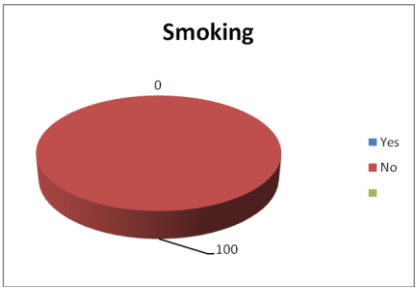
Calculated BMI	Male	Female
Underweight	1.67%	1.67%
Normal	13.33%	26.67%
Overweight	21.67%	23.33%
Obese	6.67%	5%

Percentage distribution of respondents according to their history of smoking:



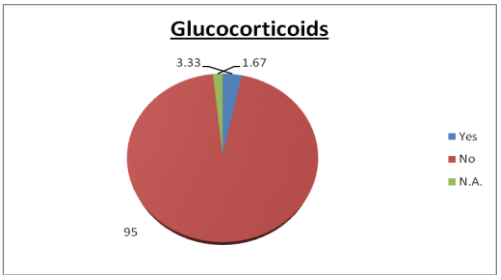
96.67% of the respondents had no history of smoking.

Percentage distribution of respondents according to their history of Alcoholism.



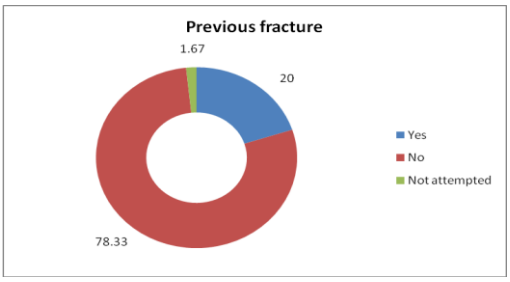
100% of the respondents had no history of Alcoholism.

Percentage distribution of respondents according to the history of treatment with glucocorticoids.



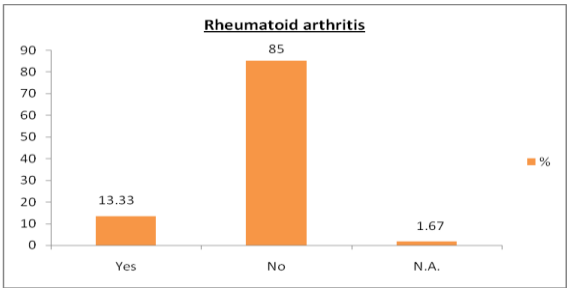
95% of the respondents had no history of treatment with glucocorticoids. One respondent who reported of taking glucocorticoids was because of medical reason.

Percentage distribution of respondents according to their past history of fracture.



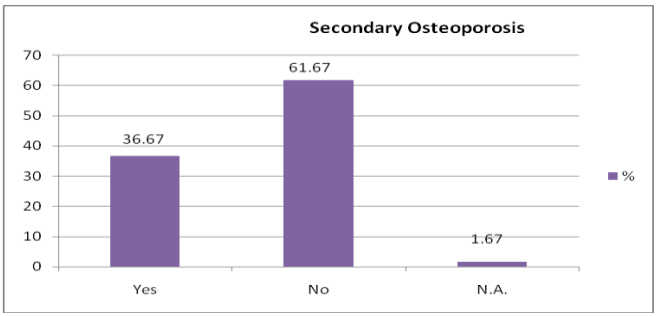
78.33% of the visitors of the exhibition had no history of fracture. In the remaining 21.67% of the respondents who reported having past history of fracture the other risk factors present in them were: age above 40 years- 91.67%, Rheumatoid arthritis – 16.67%, Secondary osteoporosis 25% and parental history of fracture in them 16.67%

Percentage distribution of respondents according to history of Rhumatoid arthritis in them.



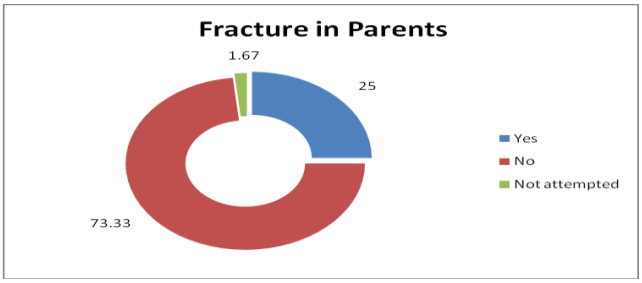
85% of the respondents had no history of Rheumatoid arthritis in them.

Percentage distribution of respondents according to their history of diagnoses of Secondary Osteoporosis



61.67% of the respondents had no history of Secondary Osteoporosis in them.

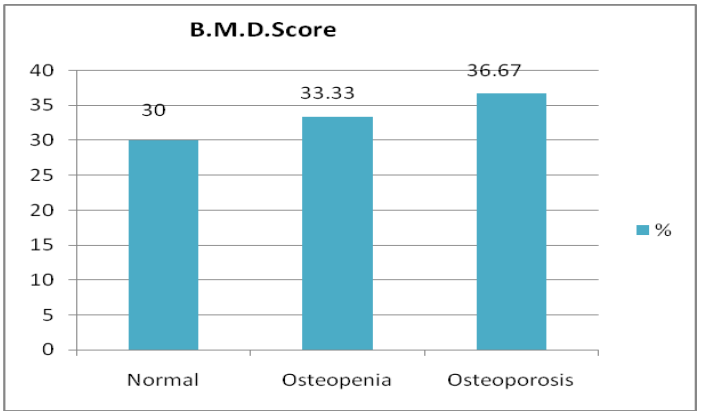
Percentage distribution of respondents according to the history of osteoporotic fracture in their parents.



73.33% of the respondents of the exhibition had no history of osteoporotic fracture in their parents.

Amongst the 26.77% of the respondents who had a history of osteoporotic fracture in their parents, also had other risk factors present in them. 86.67% of these respondents were above 40 years of age, 6.67% had a history of rheumatoid arthritis in them and 26.67% had a history of secondary osteoporosis in them. Conclusively, these factors are not only the major risk factors but also the non-modifiable ones that further put them into the high risk group.

Percentage distribution of respondents according to their B.M.D. Score.



36.67% of the respondents were diagnosed to be having Osteoporosis. Amongst these respondents the other risk factors present in them were: age above 40 years – 90.48%, history of smoking – 2.38%, history of rheumatoid arthritis – 16.67%, history of secondary osteoporosis – 38.1%, previous history of fracture in self – 21.43% and history of fracture in parents- 21.43%.

The results need to be cautiously interpreted as screening tests can help identify people who are most likely to benefit from further bone density testing. They are useful when a central DXA is not available and these tests are often done at health fairs. Screening tests can neither accurately diagnose osteoporosis nor should they be used to see how well an osteoporosis medicine is working.

The results of a peripheral test cannot be compared with the results of a central DXA and the respondents were guided to follow up with the healthcare provider.

Until recently, osteoporosis was an under-recognized disease and considered to be an inevitable consequence of ageing. Perceptions have changed since epidemiological studies have highlighted the high burden of the disease and its costs to society and health care agencies, as well as the adverse effects on millions of patients worldwide. The past 15 years have seen major improvements in diagnostic technology and assessment facilities; it is now possible to detect the disease before fractures occur. This has been associated with the development of treatments of proven efficacy. The scope of the report is to direct attention away from the sole use of BMD to determine who will receive treatment and to shift towards the assessment of absolute fracture risk, whether this be determined by BMD testing or other validated instruments. The use of clinical risk factors together with BMD provides a mechanism for the effective and efficient delivery of health care to individuals at high risk and the avoidance of unnecessary treatment to others. The application of this approach may be expected to reduce, though not eliminate, the burden of osteoporotic fractures.

Evaluation

We can draw a great satisfaction in the feedback we have received and are receiving. There is a general appreciation of the content, concept and applicability of the exhibition.

This exhibition has also contributed to our collective knowledge about how teachers teach and children learn and execute. Creating and reflecting on exhibits definitely provides a powerful form of professional development.

Reported by

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