INTRODUCTION

- Osteoporosis is a systemic disease which affects the skeleton and is characterized by low bone mass, deterioration of microarchitecture of bone tissue and bone fragility increase with consequent susceptibility to fracture [1].
- A total of 15 million people were estimated to have osteoporosis in Japan. Despite this high prevalence, osteoporosis remains underdiagnosed and undertreated [2].
- Bone fractures are the most frequent complications imposing heavy burden on individuals and society as they often lead to a variety of physical and psychological consequences, including future fractures, depression, functional impairment, pain, health-related quality of life (HRQoL), and disability as well as societal burden with respect to mortality and economic costs [3, 4].
- Currently there is a gap in our knowledge of the burden of fractures in osteoporosis patients aged 50 years or older in Japan. The present study sought to address this gap.

OBJECTIVE

- To investigate the disease burden of fractures, as well as incremental fractures in osteoporosis patients (≥50 years old) in Japan with respect to health status, work productivity and activity impairment (WPAI), and healthcare resource utilization.

METHODS

Data source

This is a cross-sectional analysis which uses an existing database of survey responses to the Japan National Health and Wellness Survey (NHWS, Kantar Health, New York, NY).

The NHWS is a self-administered, internet-based questionnaire from a nationwide sample of adults aged 18 or older. A stratified random sample was drawn with quotas based on gender and age and was used to ensure representative samples.

The current study used data from the 2012-2014 Japan NHWS. Multiple years of data were used to increase sample size and statistical power.

FIGURE 1. Flow chart for the selection of NHWS samples for analysis.

RESULTS

- Osteoporosis is more prevalent in females aged above 60 years old.
- A total of 414 (37.4%) osteoporosis patients were found to have prior fractures.
- Of the osteoporosis patients with prior fractures (n=414), 242 (58.5%) patients were found to have single fracture, and 172 (41.5%) patients were found to have multiple fractures.
- Osteoporosis patients with single fractures were older, less likely to be employed or living with partner, and had more comorbidity burden.

Table 1. Demographics and health characteristics of the study population with osteoporosis by fracture subgroup.

METHODOLOGIES

- To investigate the disease burden of fractures, as well as incremental fractures in osteoporosis patients (≥50 years old) in Japan with respect to health status, work productivity and activity impairment (WPAI), and healthcare resource utilization.

FIGURE 2. Adjusted relative risk (RR) for WPAI-related outcomes compared between osteoporosis patients with single and multiple fractures. Points represent the mean adjusted RRs with bars representing the 95% CIs, with the single fracture group as the reference. Please refer to the y-axis on the left for panel (a) and y-axis on the right for panel (b). This study represents significant associations.

CONCLUSIONS

- Almost 40% of osteoporosis patients were found to have prior fractures. Having prior fractures imposes a significant clinical burden on osteoporosis patients, and associated with significantly higher indirect and direct costs.
- Among those with prior fractures, 42% of the patients had multiple fractures (2 and more fractures). Patients with multiple fractures had significantly lower HRQoL in mental component and mean health state, and associated with significantly higher direct costs compared with those with single fracture.
- These findings suggest a substantial unmet need for more effective osteoporosis management strategies in Japan, particularly among osteoporosis patients with multiple fractures. Better disease management could help to reduce the clinical and economic burden of osteoporosis.

DISCLOSURES

- Although the NHWS is demographically representative of the adult population in Japan, it is under the extent to which the osteoporosis sample is representative of the adult osteoporosis population in Japan.
- The data are cross-sectional in nature and do not allow for causal explanations to be made.
- As with any survey, the data are self-reported and cannot be verified by patients' medical charts or other objective data.
- The study is limited by the data collected in the NHWS. For example, information on fracture site and time of the fracture was unavailable.

REFERENCES

4. Amgen Inc. Osteoporosis patients with multiple fractures had significantly higher number of HCV visits (adjusted RR: 1.30, 95% CI 1.05 to 1.61), ER visits (adjusted RR: 2.13, 95% CI 1.77 to 2.58) and hospitalizations (adjusted RR: 1.49, 95% CI 1.06 to 2.01; Figure 4A).
5. Amgen Inc. Osteoporosis patients with multiple fractures had significantly higher direct costs (adjusted RR: 1.74, 95% CI 1.38 to 2.19; Figure 4B).
6. Amgen Inc. Figure 2. Adjusted relative risk (RR) for WPAI-related outcomes compared between osteoporosis patients with single and multiple fractures. Points represent the mean adjusted RRs with bars representing the 95% CIs, with the single fracture group as the reference. Please refer to the y-axis on the left for panel (a) and y-axis on the right for panel (b). This study represents significant associations.