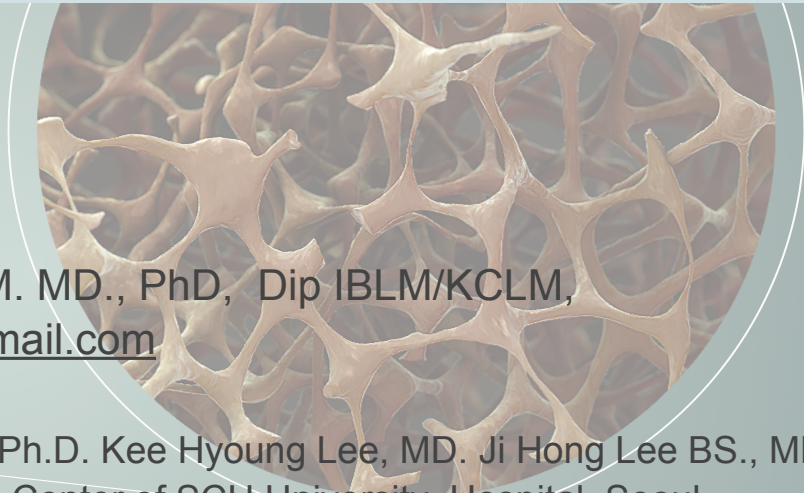


# Observational Study on Osteoporosis Treatment and Polypharmacy in Older Adults with Osteoporotic Fractures



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The background of the slide features a detailed illustration of human bones, including the skull, spine, and ribcage, rendered in a golden-yellow and brown color palette. The bones are shown in a cross-sectional or anatomical view, highlighting their porous structure and joints.

## Background and Objective

- Polypharmacy increases the risk of falls, fractures, and dizziness, especially when it involves medications that require caution regarding falls. It has been reported that polypharmacy is associated with cognitive impairment, dementia, frailty, and increased risk of Parkinson's disease. In older patients, the risk of subsequent fractures after an osteoporotic fracture increases. However, the frequency of prescribing osteoporosis medications based on bone density measurements during the treatment process is not high. In foreign countries, national integrated management strategies have been implemented to prevent osteoporotic fractures in older adults.

# Older Adults with Osteoporotic Fractures



Dual-energy X-ray absorptiometry



Quantitative ultrasonic measurements

# Osteoporotic Fractures



- Middle-aged women have a higher chance to fracture their wrists from falling.
- Elderly women have a higher chance to suffer a femoral fracture from pratfall.



# Polypharmacy

- Administering multiple medications simultaneously or administering too many medications
- Increased life expectancy and increase in complex chronic diseases among older people
- As a result, increased use of polypharmacy may increase the risk of prescribing potentially inappropriate medications (PIM).

A decorative background of human bones, including a skull and ribcage, rendered in a stylized, golden-yellow and brown color palette. The bones are arranged in a way that they appear to be part of a larger anatomical structure, with some bones showing signs of wear or fracture.

## Methods and Intervention

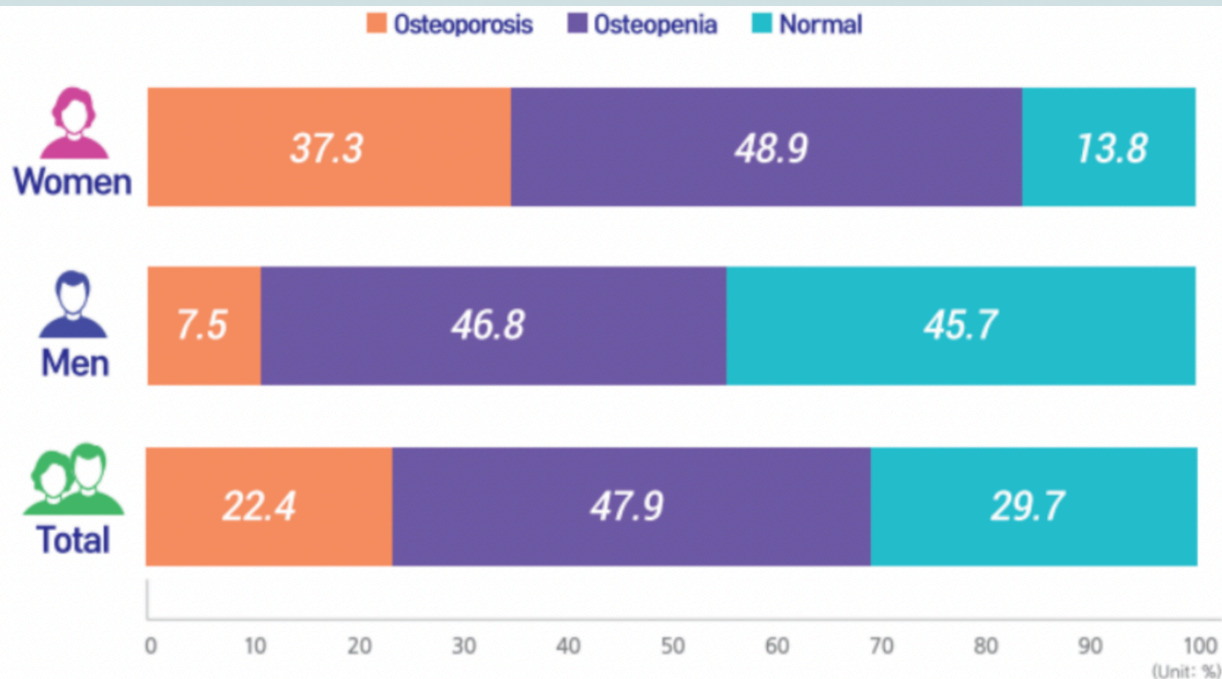
- The study aimed to investigate the status of polypharmacy in older adults with osteoporotic fractures, analyze the performance of bone mineral density tests and prescription patterns for osteoporosis treatment, and assess the use of medications that may contribute to bone mineral density reduction, including proton pump inhibitors, SGLT-2 inhibitors, and tenofovir.

An illustration of a human skull, showing the eye sockets, nasal cavity, and upper jaw. A prominent fracture is visible on the right side of the skull, extending through the eye socket and the upper jaw area. The skull is rendered in shades of yellow and brown, with a textured, slightly translucent appearance. The background is a light blue gradient.

## Results

- The study can contribute to raising awareness and understanding of osteoporosis-related re-fracture prevention in older adults with osteoporotic fractures. Currently, appropriateness evaluations are being conducted for conditions such as hypertension, diabetes, and asthma. The study can provide valuable data for establishing an appropriateness evaluation system for bone mineral density testing and appropriate prescription of osteoporosis treatment in older adults with fractures based on their results.

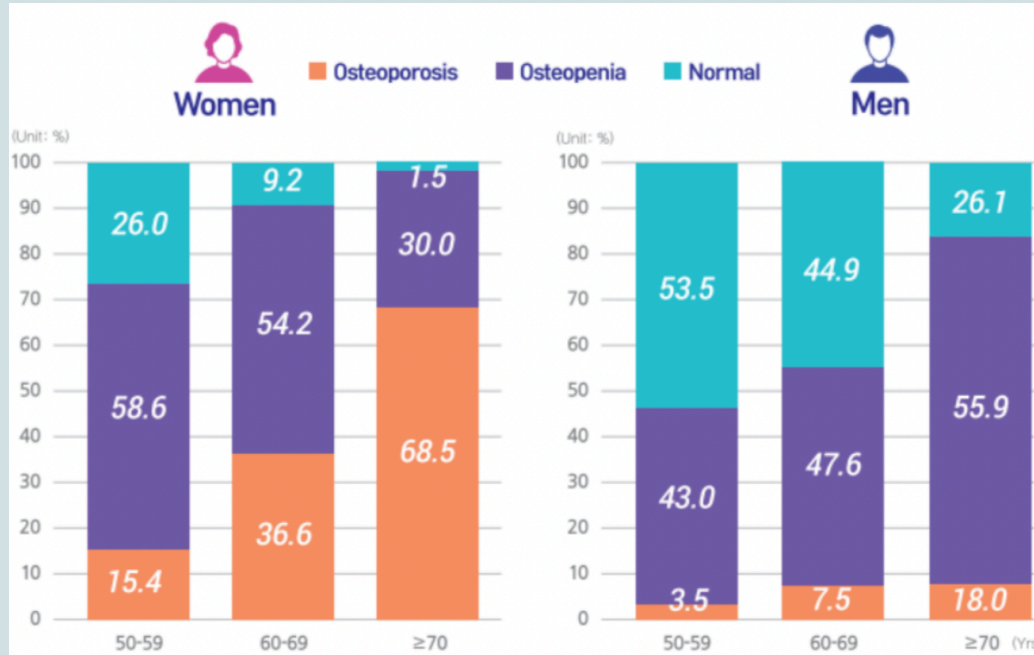
# Prevalence of Osteoporosis and Osteopenia (>50 years old)



Data were derived from the KNHANES 2008–2011 pooled-sample data.



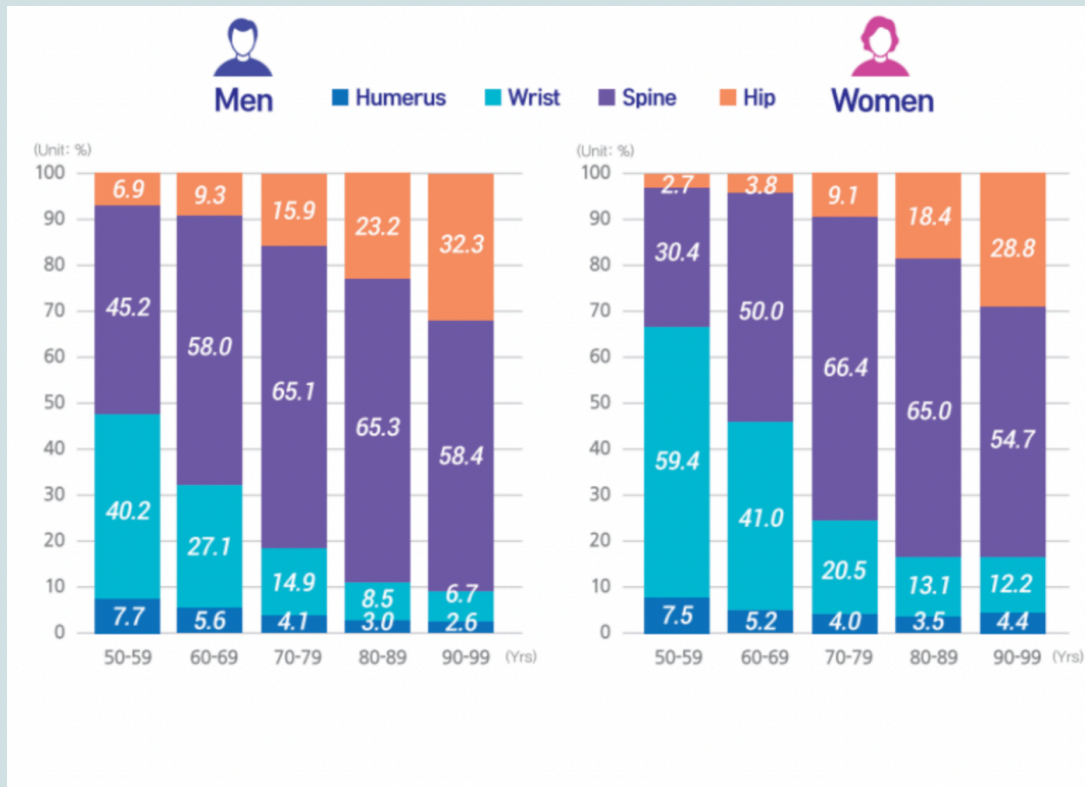
# Prevalence of Osteoporosis and Osteopenia by age



Data were derived from KNHANES 2008–2011 pooled-sample data.

From osteoporosis or low bone mass in adults 50 years and older in the Republic of Korea, 2008–2011, KCDC

# Patterns of major Osteoporotic fracture by sites



A decorative background featuring a close-up, stylized illustration of a human skull. The skull is rendered in shades of yellow, tan, and brown, with a focus on the eye sockets and nasal cavity. The illustration has a slightly textured, painterly quality.

## Conclusion

- It can help reduce unnecessary polypharmacy in older patients and encourage consideration of alternative prescriptions, particularly when prescribing medications that may lead to bone mineral density reduction.



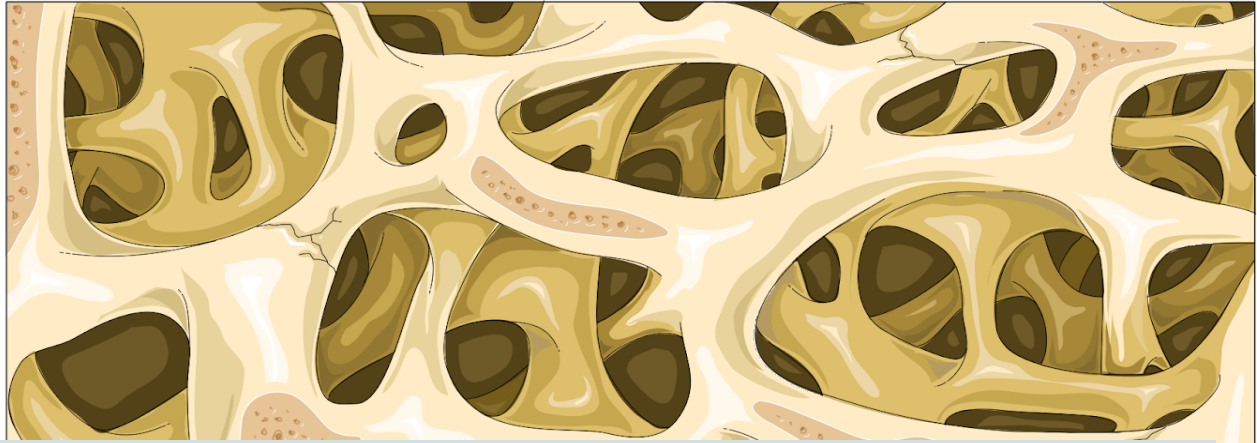
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Thank you for listening!

If you have any questions please contact

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