**What is Osteoporosis?**

Defined as having a bone mineral density (BMD) that is 2.5 standard deviations below the average bone mineral density. This rating is determined using a full body X-ray called a DEXA scan and measuring the density at either the proximal femur or lumbar spine. Osteoporosis is a progressive systemic disease that is incurable and will need to be treated for the rest of the patient’s life. Decreased bone density also leads to increased bone fragility and increased fracture risk. When fractures do occur secondary to decreased bone mineral density, acute and chronic pain, deformity, diminished quality of life, disability, loss of independence, nursing home admission, and death may result. Research has found:

- 10.2 million adults had osteoporosis and 43.4 million had low bone mass in 2010.
- Approximately ⅓ of women and 20% of men over the age of 50 will be affected.
- By 2025, annual fractures and costs are projected to grow by 50% and surpass 3 million and $25 billion, respectively.
- Whole body vibration is a treatment method where an oscillating plate creates an acceleration to the body to help place load on the bones to improve bone mineral density.
- Researchers found that high frequency, high magnitude whole body vibration therapy was effective in increasing bone mineral density in the lumbar spine for postmenopausal women.
- Current evidence was reviewed with regard to the type and dose of exercise training that has an influence on bone mass, structure, and strength, and reduce fracture risk and progression of osteoporosis in research. The authors suggested that management should include progressive resistance training, weight-bearing impact exercise, and exercises that challenge balance, stepping, and mobility.

**Management of Osteoporosis**

**Physical Therapy:**

- Sling exercise therapy is a form of exercise with the use of slings to help treat individuals with motor problems, increase muscle strength, and improve gait.
- Researchers found that sling exercise therapy was effective in improving quality of life and function in ADL’s in people living with osteoporosis.
- An exercise program consisting of high intensity, progressive resistance and impact weight-bearing training was effective in improving BMD and physical function in patients with osteoporosis.

**Medications/Supplements:**

- Researchers have found that medications for the treatment of osteoporosis has been beneficial in maintaining bone mineral density and preventing fractures.
- Alendronate is the best medication for treating patients with previous fractures.
- Alendronate and bisphosphonates are the most commonly used medications.
- Selective estrogen receptor modulators were more effective in treating patients who haven’t had a previous fracture due to osteoporosis.
- It was also found that the most common reason for patient non-compliance is the side effects, such as joint pain, back pain, heartbeat, and headaches.

**References**


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**Importance of Qualitative Research**

DiCicco-Bloom et al utilized an in-depth and personal interview process that was open-ended and face-to-face to elicit detailed narratives from the interviewee.

- This article showed that quantity is not the greatest concern in interview based research.
- The most important concern is that the interviewees are being completely honest.

A review article by Bombak et al discusses the influence of osteoporosis on an individual’s daily life rather than solely looking at the physical manifestations of this disease.

Kallio et al explored the effectiveness in maintaining the trustworthiness of qualitative research. They found that the most effective way to follow the 5 steps:

1. Identifying the prerequisites for using semi-structured interviews,
2. Retrieving and using previous knowledge,
3. Formulating the preliminary semi-structured interview guide,
4. Pilot testing guide,
5. Presenting the complete semi-structured interview guide.

The review by Hoang-Kim et al discusses different types of phenomenological qualitative research and strategies to implement, such as “setting aside preconceived ideas about the phenomena,” so that the responses collected are as true to the patient’s experience as possible.

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**References**