**Health Sciences and Nursing**

**Osteoporosis**

Osteoporosis depicts the bone disease, which increases the risk of fracture in a person (Candela, 2018). As such, the bone mineral density (BMD) declines, alteration of the protein bone occurs, and deterioration of the bone microarchitecture is experienced.

**Signs and symptoms**

In the early stages, the disease causes dull pain or height loss in the muscles or bones, especially the neck pain or low back pain. In later stages, the disease triggers sharp pains.   
**Anatomical structures**

The mechanisms for the development of the osteoporosis are inadequate new bone formation, the excessive resorption of the bone, and inadequate bone mass peak. These mechanisms contribute to the underlying of the fragile bone tissue development.   
**Treatment and prevention**

The treatment of osteoporosis can be done through medication administration or changes in lifestyle. The medication includes vitamin D, calcium, and bisphosphonates. The prevention of the disease is enhanced through exercise to ensure that the muscles are toned, through equilibrium therapies, and having proprioception-improvement exercises. The exercises that have the anabolic effect may reverse osteoporosis or stop it.

The disease is related to the age group of the elderly in society. Thus, the healthy people are not expected to break a bone and it occurs in the rib, wrist, vertebral column, and hip.

**Paget’s disease**

Paget’s disease is a chronic disorder experienced in the bone that makes them to misshapen and become large (Candela, 2018). There is no known cause of the disease, but scientists suspect that there is a combination of genetic and environmental factors.

There are no known signs, but the common complaint, which is experienced, is the bone pain. Such occurs since the disease triggers the body to generate new bone faster as compared to normal that leads to bone fractures, deformities, and pain.

The anatomical structure of the disease relates to the ease of bones breaking, which is evidenced by deformities and fractures, bone cancer, and heart failure.

The treatment of the disease involves the use of the pain-relieving medicines or anti-inflammatory drugs. The deformity of the bone requires the support of the specialized footwear or heel lifts. For the fractures, deformed bones, and damaged joints, there is a need to undergo surgery.

Unfortunately, the disease does not have any preventable mechanism.

The risk of a person towards Paget’s disease increases with age. There is also a high risk if one of the members in the family develops the disorder. The complications from the disease include pinched nerves, hearing loss, and broken bones.

**References**

Candela, Lumen. (2018). *Diseases and disorders of the skeletal system.* Retrieved from:https://courses.lumenlearning.com/boundless-ap/chapter/diseases-and-disorders-of-the-skeletal-system/