**Discussion**

1. **Review of the Video on Healthy Bones**
2. Three problems related to bone health are osteoporosis, osteopenia and bone fractures. Osteoporosis is a bone disease characterized by more than 25% decrease of bone density and an alteration in bone composition resulting in increased vulnerability to fracture (Zamulko, 2015). The degree of bone formation is slower compared to the rate of resorption hence the reduction in cumulative bone quantity (Hinkle & Cheever, 2013). The bones become increasingly porous, breakable, and delicate. It is more common in women than men attributed to hematologic disorders, hormonal disturbances and aging. It is prevented by smoking cessation, cutting down or steroid treatment whenever possible, daily calcium intake and checking vitamin D levels. Ostopenia is another bone problem that occurs due to the loss of 25% of the bone density in the earlier stages of Osteoporosis characterized by thinning of bones (Zamulko, 2015). Despite the thinning, the bones are not as fragile as in osteoporosis and is more common in women than in men although it has a genetic predisposition. It can be prevented through diet changes and weight bearing exercises (Hinkle & Cheever, 2013). Also, bone fractures are bone problems associated with the above mentioned conditions due to accelerated bone loss worsened by chemotherapeutics (Zamulko, 2015).
3. Osteomalacia is a metabolic bone ailment depicted by insufficient bone mineralization. Consequently, the skeleton becomes feeble resulting in bone bowing, pain, pathologic fractures, and waddling gait. This is a bone problem because left untreated it could lead to fractures and disability depriving the patient of their independence (Hinkle & Cheever, 2013).
4. Patient teaching strategy to promote prevention of Osteoporosis- the patient needs to be educated on self-care activities comprising of dietary changes such as increased calcium intake, regular weight-bearing exercise, and lifestyle changes such as reduced consumption of caffeine (Zamulko, 2015).
5. **Research Article**
6. “Bone mineral loss induced by anticancer treatment for gynecological malignancies in premenopausal women,” by Nishio *et al.* (2013) is a scholarly research article that aimed to evaluate the effects of gynecological cancer treatments on bone mineral density. The sample and sample size of the study comprised of 35 premenopausal women 15 of whom had ovarian cancer, 9 with endometrial cancer, and 11 with cervical cancer undergoing bilateral oophorectomy in addition with adjuvant platinum-based chemotherapy in ovarian and endometrial cancer patients or con-current chemo-radiation regimen in cervical cancer patients.
7. The above named study relates with the two topics of Unit two, ovarian and cervical cancers, in that the two topics explores on the reproductive cancers and their related complications, in this case the osteoporosis as an outcome of the prolonged use of chemotherapeutics and other cancer treatment modalities.
8. The most interesting finding is that high doses of radiation therapy have increased rates of bone trabeculae atrophy especially after kilovoltage irradiation attributed to the drastic reduction of osteoblasts.
9. Limits of generalizability of findings based on the study’s sampling procedure, setting, and sample- the study only used a sample of premenopausal women hence it is difficult to gauge the susceptibility of bone mass loss attributed to the use of chemotherapeutics among women of youngers ages and postmenopausal women.
10. **Developing a Lesson Plan**

A lesson plan comprises of eight phases; Introduction, foundation, brain activation, body of new information, clarification, practice and review, independent practice, and closure (Anderson, 2015). The key components that make it effective include; the title of the lesson which should be stated clearly and precisely for easy understanding. Time is a valuable commodity thus adequate time should be allocated to each learning activity. Also, learning materials should be sufficient to meet the learners’ needs and the lesson objectives should be SMART. An instructional module as well as a summary are also essential since it guides the learning period and gives a quick overview of the lesson covered respectively. Evaluation is also a crucial component that allows to the teacher to analyze the attainment of the set objectives.

**References**

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