Osteopenia is regarded as a bone condition whereby its is observed that the Bone Mineral Density (BMD) is less than that of the mean value. Unfortunately Pakistan has become one of those countries which encounter the health conditions of Osteoporosis and Osteopenia among women which may or may not be influenced by dietary factors. **Objectives:** The objective of this study was to find the frequency of osteopenia among females and its relationship with dietary factors. **Methods:** It was an analytical and cross-sectional study carried out at Niaz Medicure Clinic in Faisalabad, Pakistan. Selection of the participants was based on Non probability purposive sampling. 323 females were taken for the study. The BMD was measured using Quantitative Ultrasound (QUS) machine. The factor dietary habits was taken into account for the study. **Results:** The results showed that about 56% of the females had Osteopenia. However, Dietary factors didn't seem to influence BMD levels in this study (p<0.05). **Conclusions:** There was no association found between Osteopenia and Dietary factors including milk intake (p =0.603) and junk food (0.159).
participants was based on Non probability purposive sampling. 323 females were taken for the study. Bone Mineral Density was evaluated using Quantitative UltraSound (QUS) machine. The factor dietary habits was taken into account for the study. A questionnaire was prepared to analyze dietary habits of the participants.

**Results**

The total number of female participants was 323. The results of the Bone Mass Density (BMD) were categorized as normal, osteopenia and osteoporosis. According to the results, 54.9% of the females who took one glass of milk per day had Osteopenia. However, 57.2% women who mentioned taking two glasses of milk per day had Osteopenia. The results suggested no association between milk intake and Osteopenia (p > 0.05) (Figure 1, Table 1).

Preference for junk food was one of the variables selected for this study. The participants who mentioned their preference for junk food had a 58.6% prevalence of Osteopenia while 54% of those women who expressed their dislike for junk food had Osteopenia. The p value suggested no association between junk food and Osteopenia (p > 0.05) (Figure 2, Table 2).

Out of the total participants, 56.3% females had Osteopenia. Furthermore, 20.1% females had normal BMD while on the other hand 23.5% of the participants had Osteoporotic bones (Figure 2, Table 2).

The T score values were used to categorize BMD level for each participant. The mean T score was calculated to be -1.5019. The maximum values for the t scores were 3.30 while the minimum were -3.30 (Table 3).

**Discussion**

In this study, low intake of calcium didn’t seem to play a role in developing osteopenia (p = 0.603). Women who took two glasses of milk had slightly higher frequency of Osteopenia than women who took only one glass (57.2% and 54.9% respectively). Calcium is absorbed through intestine by vitamin D [15]. So it is important to maintain appropriate intake of calcium and vitamin D [16]. The results of this study are in agreement with a study which concluded that increasing calcium through diet didn’t produce any significant improvement in BMD levels (p > 0.05) [17]. Further,
calcium absorption is dependent on normal vitamin D levels. Vitamin D, known as sunshine vitamin as 80% is obtained from sunshine and butter and cholesterol rich food and fish is a hormone and around 62.7% Pakistani females are vitamin D deficient [18]. Keeping in view all this is not surprising to observe insignificant result of calcium alone with osteopenia.

In this study there was no statistically significant difference in the frequency of osteopenia among females who either consumed junk food or not (p=0.159). Insignificant difference may be attributed to certain factors like duration and frequency of exposure to junk food. In contrast, a study conducted in South Korea depicted that fast food had significant correlation with osteopenia (p=0.028). Another study conducted in Australia showed that associations between fast food outlet exposure and bone measures at four or six years of age were not statistically significant (p>0.1). However further multi centered studies with larger sample size should be done to establish valid association.

**C O N C L U S I O N S**

The frequency of Osteopenia was identified to be 56.3%. There was no significant association found between Osteopenia and dietary factors such as milk intake or consumption of junk food.

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