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Research Article

**ASSOCIATED RISK FACTORS AND OSTEOPOROSIS IN  
WOMEN**<sup>1</sup>Muhammad Zuhair, <sup>2</sup>Abdul Ghani Jan, <sup>3</sup>Maheeb ullah<sup>1</sup>Medical officer old BHU shaikhan zhob, <sup>2</sup>Medical officer DHQ HOSPITAL, pishin, Balochistan, <sup>3</sup>Medical officer DHQ HOSPITAL, pishin, Balochistan.**Article Received:** September 2019    **Accepted:** October 2019    **Published:** November 2019**Abstract:**

*Strong bones are strength of health and when the bones become weak and fragile the strength reduces and is commonly known as the osteoporosis. The disease is silent and starts from young age and become prominent in older age. For better health young women should take care of their bone health and take steps which help to build the bone mass and can help to reduce the risk of diseases. In Pakistan the population is deficient in vitamin D. The purpose of the study is to find the osteoporosis presence in the women of Lahore.*

***Method:** The study was conducted in the Lahore General Hospital from the time period of June 2018 to April 2019. Total of 300 women were selected for the study who have the sign and symptoms of weaker bones and history of bone fracture. Pregnant women were excluded from the study.*

***Results:** Osteoporosis was observed in the older women and also was present among young women too. Menopause women were 43.3 % of the study and were recommended for estrogen replacement therapy and vitamin D, calcium supplements for maintaining the decreasing BMD. The risk factors for osteoporosis were gravidity, old age, life style, poor nutrition and poor awareness about the bone health.*

***Conclusion:** Osteoporosis is common among women and the women should take preventive measures in order to delay or stop the process of weakening bones. There are numerous factors which induce the osteoporosis in women like disease history, life style, food intake, pregnancies, lactation and the sun exposure. Awareness about bone health and quality food intake can help to reduce the osteoporosis in women*

**Keywords:** osteoporosis, Vitamin D, calcium supplements lactation, bone mineral density, pregnancy

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**INTRODUCTION:**

Osteoporosis is a silent disease commonly observed among the women in older age and present in young women too. Pakistan is suffering from several health issues osteoporosis is considered among one of them. The population overall is vitamin d deficient and bone mass density loss occur due to poor intake of calcium related food and supplements. Women are at higher risk of getting osteoporosis in older age and also can have a risk in getting at young age. The quality of life suffers when someone get the disease. It is a silent disease you can delay it but cannot stop it. Modern life style and consumption of cold drinks with fast food has reduced the calcium level of bones. The bones do not make calcium by their own, they have to get it from the nutrition and supplements one uses for the betterment of their health. There are many diagnostic tests available to analyze the bone marrow density in order to control the disease before it make huge loss to bones'-rays, ultrasound, calcium level and D 3 level tests can help to detect the disease. Quality of food and calcium rich food can help to delay the disease in young age and in older age especially in past menopause the calcium and D 3 supplements can help to improve the bone health. According to WHO report the calcium intake of the Pakistani Women are less than fifty percent of the normal requirements. It means they are deficient of calcium and needs not only supplements to improve bone health but also education program about the bone health should be introduced. Women are considered at higher risk because their bones are less dense and thinner as compared to men. The life expectancy of women is high as compared to men and with passage of time bone strength reduces. Menopause reduces the estrogen level which helps to maintain the bone mass. Osteoporosis is silent and one comes to know when they have fracture issue. Vertebrate osteoporosis can have serious health issues for women. They may develop back ache, back curves, hunched posture and slopping shoulders. Bone mass reduction causes osteoporosis. Estrogens play

important role in maintaining bone health and when the level of estrogen reduces it lowers the bone mass density and hence the risk of getting disease enhances specially in the menopause but in young age it can also affect the health due to poor quality of food intake, lethargic life style and due to any disease. Screening tests are recommended by the doctors to diagnose the disease for its treatment. Physical activity, regular exercise, calcium supplements, calcium and D 3 rich food and sun exposure should be introduced in life in order to avoid the osteoporosis in young and older age.

**Research methodology:**

The study was conducted from the time period of June 2018 to April 2019 in Lahore General Hospital. The sample size of the study is 300 women .The women were categorized in two group's .The Group A is about the women before menopause and group B is about the women after menopause. Pregnant women were not included in the study. The study was on volunteer basis and all the information regarding their life style, income group, eating habits, height, weight, reproductive cycle, disease history and bone fracture history was recorded in the study in order to analyze the factors associated with osteoporosis. Clinical screening and diagnostic tests were made to confirm the presence of disease among women participating in study.

**RESULTS AND DISCUSSIONS:**

The sample size of the study was 300 women and they were divided among two main groups according to their age Group A consists of women before menopause and less than 40 years of age and Group B consist of women above 40 years of age and after menopause. The average age of the participants was 45 years. 40 percent of the participants belonged to group A and the 60 percent of the participants were from group B. It means the osteoporosis was more common among older women and condition become more complex if the women have menopause too.

**Table 1 Age Distribution**

Age	Frequency	Percentage
Group A less than 40 years	120	40%
Group B above 40	180	60%
Total	300	100%

Table 2 is about the education status of the participants, it is clear from the table that the participants are literate 26.6% and the participants who did their matriculation were 23.3%.The Participants who reached up to graduation level were counted to 33.3 % and the participants who were post graduate were 6%.

**Table 2**

Education	Frequency	Percentage
Literate	80	26.6%
Matriculation	70	23.3%
Up to graduate	100	33.3%
Graduate	30	10%
Post Graduate	20	6%
Total	300	100%

Table 3 is about the marital status of the women. The women who were unmarried counted 26.6% of the .Married women contributed in the study were 73.3 %.The number of pregnancy and lactation also considered a risk factor osteoporosis.

**Table 3**

Status	Frequency	Percentage
Unmarried	80	26.6%
Married	220	73.3%

Table 4 is about the income group of the participants. From the results it is clear that 53.3 % of the participants belonged to the lower income class and hence unable to afford the quality food and food supplements. In addition to poor financial status the no of gravidity is also large. These women were at higher risk of and also were suffering from osteoporosis. The middle class was also unable to maintain their quality food but they were in a position to afford the supplements for maintaining their bone mass density in older age and constituted 40 percent of the participants. From upper middle class only 6 % of the participants belonged.

**Table 4**

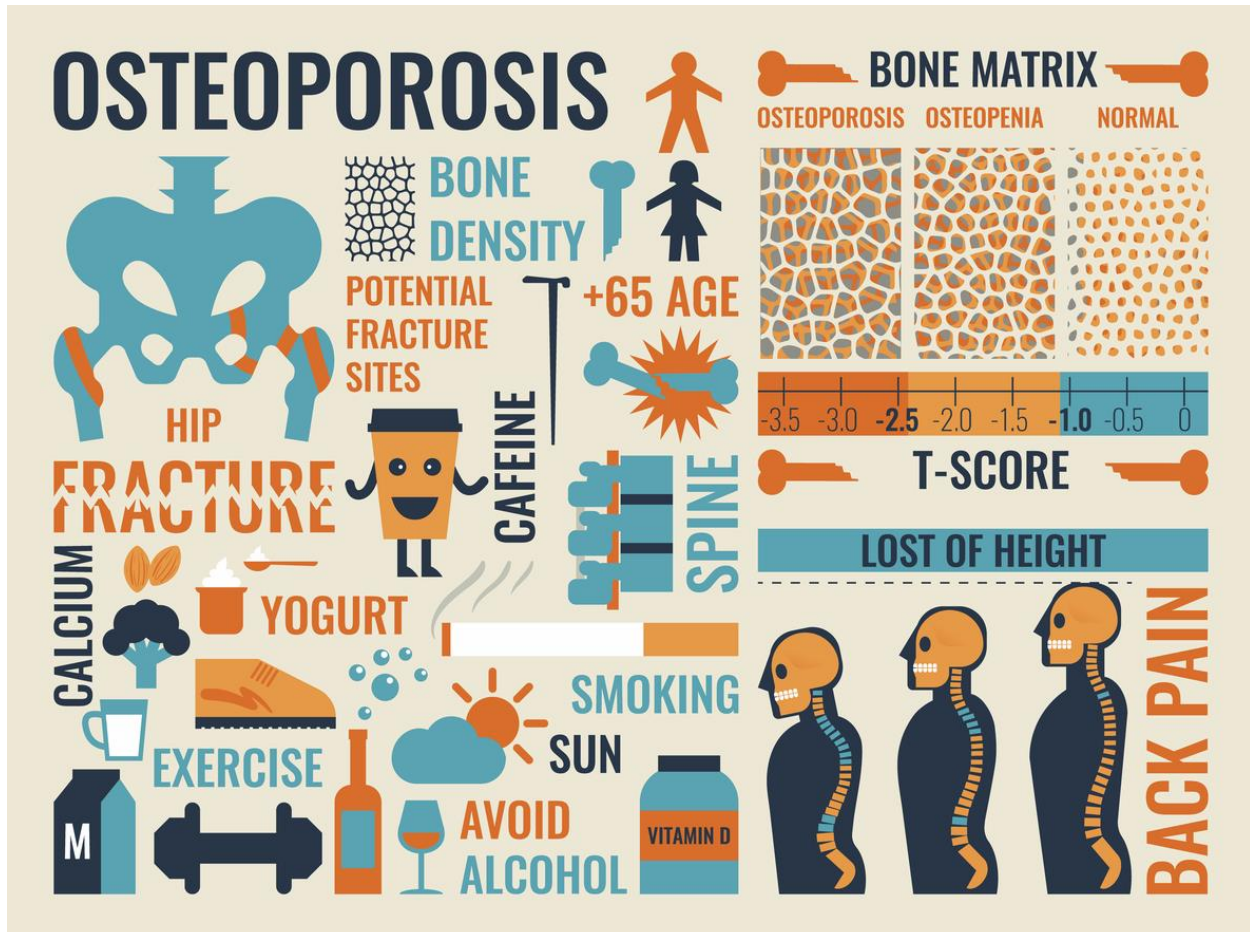
Income	Frequency	Percentage
Lower class	160	53.3%
Middle class	120	40%
Upper middle class	20	6%

Table 5 is about the medical history of the participants. From the table below it is clear that the overall health status of the women were not satisfactory. They were suffering from multiple health problems. The majority of the diseases can be controlled if the population is well aware how to prevent the diseases before it occurs. The health education awareness at community level should be introduced at school and college levels so that the new young generation can prevent the diseases and should take steps to strengthen their bone mass density and bone health.

**Table 5 Medical History**

Status	Frequency	Percentage
Family history of osteoporosis	40	13.3%
Bone fracture history	18	6%
Menopause	80	26.6%
Consumption of dairy products	70	23.3%
Bone fracture history in Parents	22	7.3% %
Hysterectomy history	30	10%
Diabetes	120	40%
Hypertension	80	26.6% %
Rheumatoid arthritis	110	36.6%
Exposure to sun in a day	170	56.6%
Poor exposure to sun	60	26.6%

Osteoporosis is common disease in world and its presence was observed in USA, UK, Asia, Africa and other parts of the world. In Europe it is common due to increasing ratio of old people among the population. Life style and demographic changes has made life easy and sedentary which is a major cause of immobility and osteoporosis. Vitamin D is considered vital factor to prevent the silent disease among women and the deficiency of Vitamin D is high in Pakistani women.



Source: <https://healthbeat.spectrumhealth.org/whats-it-going-to-take-a-break/>

The risk factors for osteoporosis under investigation were old age, life style, bone fracture history, lactation, menopause, gravidity and poor quality of food. High bone mass density acts as a protector for the bone health. The focus should be maintaining the BMD and increasing it .In this way osteoporosis can be delayed.

Prevention is considered a best cure. To prevent the weak bones we have to build stronger ones when we are young and especially in teen age. With older age the strong bones in young age can help to reduce the bone loss in old age. Menopause enhances the bone loss process. With the aging process if following preventive measures adopted can help to avoid the fast bone loss.

- Proper intake of recommended dose of vitamin D and calcium daily

- Active life style and physical activities like walk exercise etc can help build stronger bones
- Use food rich in calcium (dairy products, green vegetables. Cereals and some pastas)
- Regular exposure to sun for better absorption of vitamin D

The recommended daily dose for calcium is 1300 mg per day for the age group of nine years to 18 years, 1000 mg for the age group of after teen till menopause and 1200 mg calcium for older and menopause women.

Women of all age group were recommended to take calcium supplements for stronger bones. Vitamin D is vital element for absorbing calcium from food. Sun is a natural vitamin D source .Our skin helps in generating vitamin D from sun. Daily exposure to sun



is recommended, the foods which contain vitamin d are tuna fish, salmon and egg yolk. Some serials and juices also contain vitamin D as an added source. Vitamin D supplements are recommended by the doctors for better calcium absorption. Improved physical activity like running, walking, yoga and exercise can help to build stronger bones. Pakistani women life style is sedentary due to the availability of domestic help from the maids. They spend their time in sitting and relaxing at home which can cause the muscles fatigue and low bone mass. The present study shows that the women who belonged to middle income group and upper middle group were suffering from osteoporosis, overweight due to poor physical activity and poor intake of calcium and vitamin D supplements. Traditional life style have emerged severe health issues like osteoporosis. Menopause is the major risk factor in women which reduces bone mass, making bones fragile and weak. Estrogen replacement therapy can be suggested by the consultants for enhancing the bone mass density in the women after menopause in order to maintain the estrogen level for better health.

#### CONCLUSION:

Osteoporosis is common among older women. Preventive measures can help to reduce the risk. For better women health the education and training program at school and college level can help to maintain the BMD. Calcium enriched food and vitamin D, calcium supplements can help to maintain the stronger bone mass density. Adoption of physical healthy life style and exercise can be an advantage for maintaining the good quality of life. Sun exposure is vital for the vitamin d intake which helps in the absorption of calcium.

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