# The Relationship between ABO Blood Group and Osteoporosis among Postmenopausal Women of Fasa in 2015

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*Poster Presentation*

**Background & Objective:** The relationship between different human blood groups and various diseases has been demonstrated. Osteoporosis is a disease in which decreased bone strength increases the risk of a broken bone. The present study is an attempt to examine possible associations between ABO blood groups and osteoporosis among postmenopausal women of Fasa.

**Materials & Methods:** This cross-sectional study involved 300 postmenopausal women from Fasa, aged between 45 and 85 years old. Four anthropometric measurements (height, weight, waist circumference, and hip circumference) and blood sample (ABO status and hemoglobin concentration) of all the participants were taken. Bone mineral density was evaluated by using dual energy X-ray absorptiometry at lumbar spine (L1–L4) and the proximal of the femur. The relationship between variables was evaluated by using T-test and chi-square. The analysis was done using SPSS21 software. P- Value<0.05 was considered statistically significant.

**Results:** The analysis of the data revealed that osteoporosis was more prevalent at lumbar spine among individuals with blood group A (29.3%), followed by those with blood group B (27.7%), AB (26.3%), and then O (16.7%). whereas the proximal of the femur in individuals with blood group B (32%) showed the highest prevalence of osteoporosis followed by a decreasing trend from blood group AB (31%) to A (28.7%), and then O (8.3%). Total prevalence of osteoporosis was 26.2% in lumbar spine and 19.8% in proximal femur, indicating that lumbar spine has an elevated risk for osteoporosis among postmenopausal women. All the anthropometric variables and hemoglobin concentration of individuals with blood group O demonstrated non-significant differences with non-O blood group except for weight and body mass index. These differences were statistically significant.

**Conclusion:** Women with blood group O exhibited significantly higher bone mineral density for lumbar spine and proximal femur as compared to those with non-O blood group, thereby suggesting an increasing risk of osteoporosis among individuals with non-O blood group.

**Keywords:** ABO blood group, Osteoporosis, Postmenopausal, Fasa