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Iron Status Alterations in Osteoporotic Pre and Postmenopausal Women: Perubahan Status Zat Besi pada Wanita Pra dan Pasca Menopause dengan Osteoporosis

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Abstract

General Background: Osteoporosis is a major skeletal disorder associated with fractures, disability, and increased mortality among women. Specific Background: Alterations in bone metabolism may influence hematological parameters and iron status, particularly during the menopausal transition. Knowledge Gap: Limited data are available regarding the association between blood variables and iron status in pre- and post-menopausal women with osteoporosis in Basrah. Aims: This study aimed to evaluate blood parameters and iron status indicators among pre- and post-menopausal women suffering from osteoporosis. Results: Ninety-seven women aged 40–60 years were assessed using DEXA and laboratory analysis. Osteoporotic women showed significant decreases in hemoglobin, packed cell volume, and serum iron, accompanied by a significant increase in serum ferritin. Red and white blood cell counts and total iron-binding capacity showed no significant changes compared with healthy controls. These findings were consistent in both pre- and post-menopausal groups. Novelty: The study provides regional evidence linking iron status disturbances with osteoporosis among menopausal women in Basrah. Implications: Monitoring iron-related blood parameters may support clinical evaluation of osteoporosis in pre- and post-menopausal women.