Nutritional Deficiencies and Osteoporosis Among Afghan Migrant Women in Pakistan

September 15, 2025

This research was conducted with the financial support of HeartWork Foundation, on selected Afghan migrant families in Pakistan who are under the care of HeartWork Foundation and NGO FFTA (Food for Thought Afghanistan). Both organizations are supporting these families in their preparation for relocation to Brazil.
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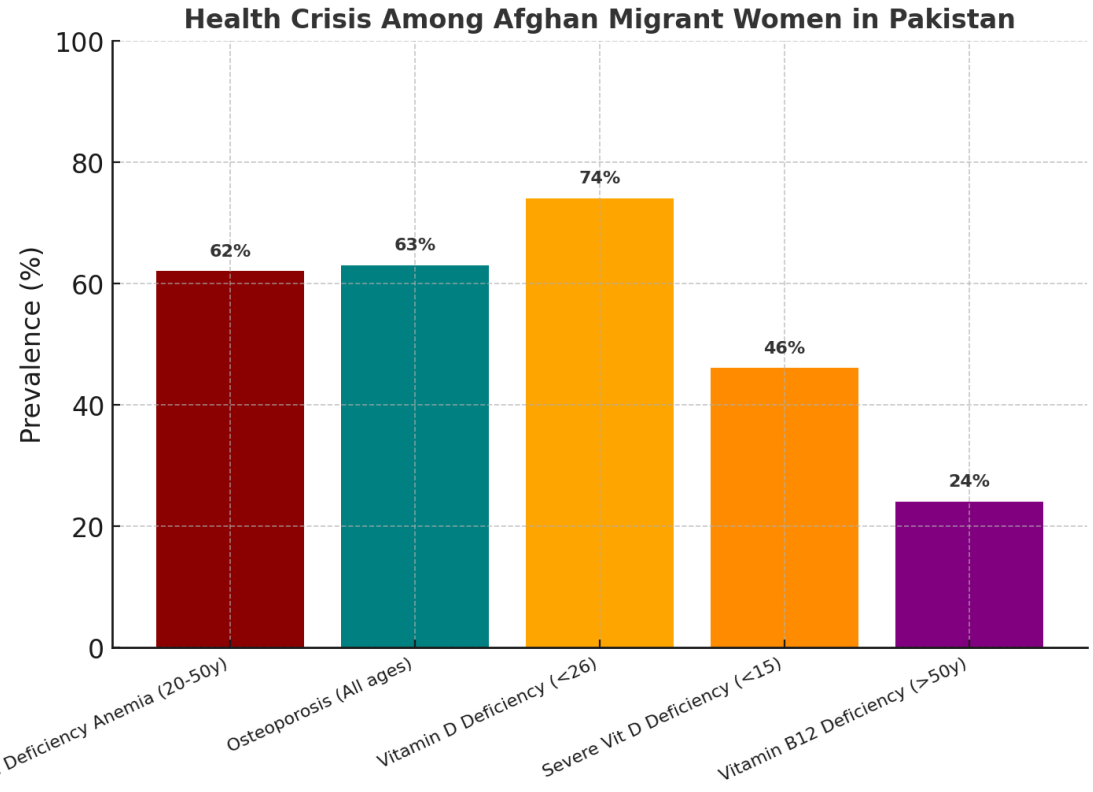
Abstract

This study investigated the prevalence of micronutrient deficiencies and osteoporosis among 143 Afghan migrant women and 60 families living in Pakistan. Findings revealed a high burden of iron deficiency anemia (62%), vitamin D deficiency, and osteoporosis. Age-specific patterns showed that younger women (20–35 years) were most affected by iron deficiency, while older women (>50 years) demonstrated vitamin B12 depletion and severe osteoporosis. These results highlight a critical public health and humanitarian crisis, requiring urgent donor and NGO intervention to prevent chronic disability in this vulnerable group.



Introduction

Forced migration often exposes women to poverty, poor diet, and limited healthcare access. Afghan migrant women in Pakistan face additional barriers: confinement indoors due to fear of deportation, cultural restrictions, unemployment, and lack of financial resources. These conditions increase their risk of micronutrient deficiencies and musculoskeletal diseases, leading to long-term disability and loss of quality of life.

This study, selected women's who are in Pakistan, aimed to evaluate the prevalence of iron, vitamin D, and vitamin B12 deficiencies, as well as osteoporosis, in order to draw attention to their urgent health needs.

Methods

Population: 143 Afghan migrant women divided into three age groups:
- 20–35 years (n = 43)
- 35–50 years (n = 50)
- Above 50 years (n ≈ 50)

Data collection included clinical assessment, laboratory evaluation of micronutrient levels, and osteoporosis screening.

Results

Osteoporosis and Vitamin D Deficiency:
- 90 women diagnosed with osteoporosis.
- Of these, 67 (74%) had vitamin D levels <26 ng/mL.
- 41 women (46%) had severe deficiency (<15 ng/mL).
- In the 20–35 age group, 16 out of 43 (37%) already showed deficiency (10–25 ng/mL).

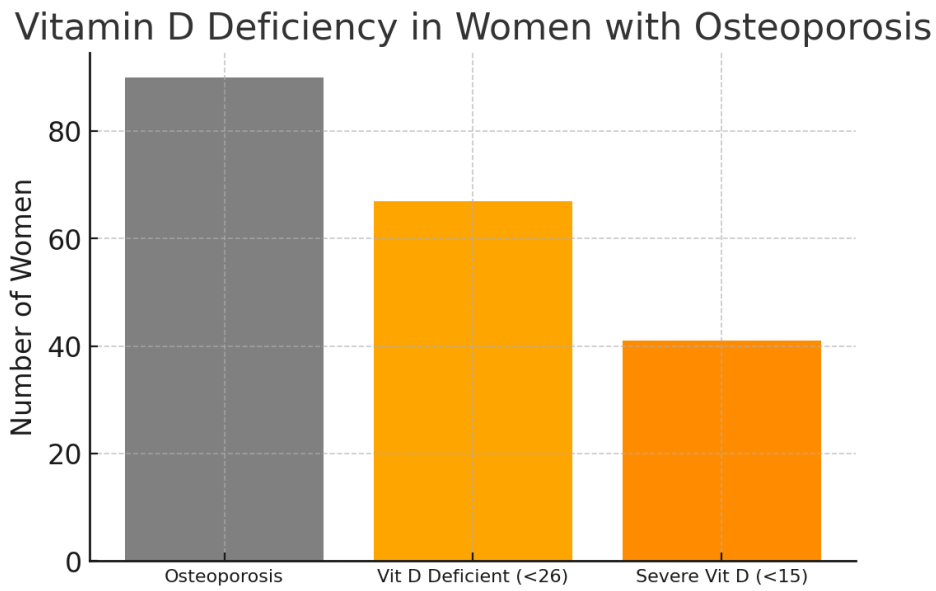


Figure 2. Vitamin D Deficiency in Women with Osteoporosis. Among women diagnosed with osteoporosis, three out of four also had vitamin D deficiency, and nearly half were severely deficient. This overlap shows how poor nutrition and lack of sunlight accelerate disability.

Iron Deficiency Anemia:
- Overall prevalence: 62% (~89 women).
- Found only in the 20–35 and 35–50 age groups.
- No cases in women above 50 years.

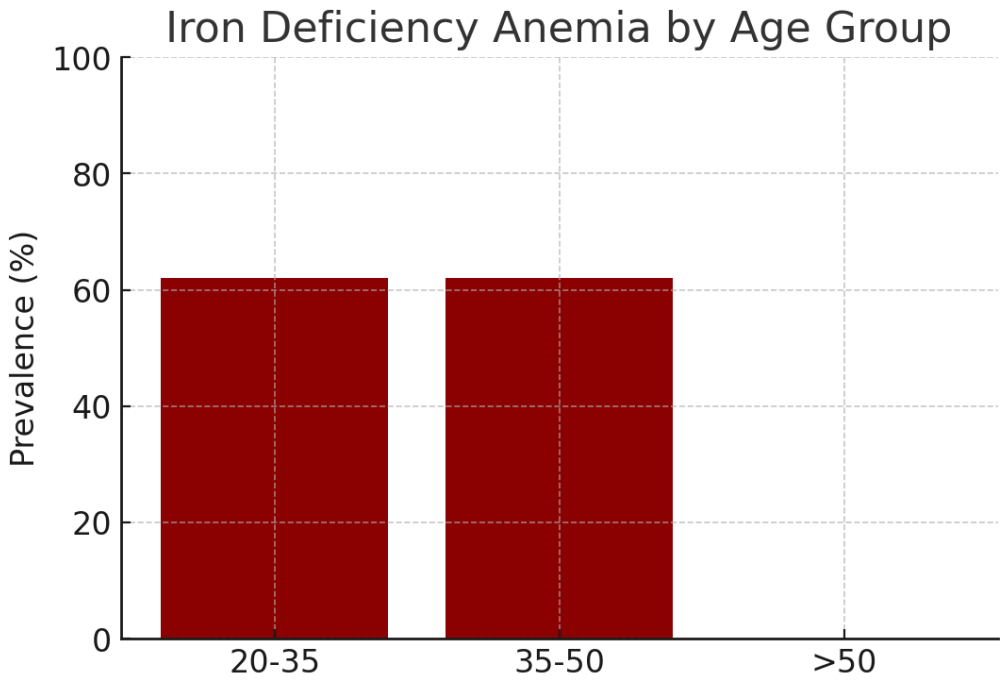


Figure 3. Iron Deficiency Anemia by Age Group. Iron deficiency anemia affects over 6 in 10 Afghan migrant women of reproductive age, severely impacting energy, concentration, and pregnancy health. No cases were found in older women, showing that young mothers carry the greatest burden.

Vitamin B12 Deficiency:
- Absent in younger groups.
- 12 women >50 years showed upper normal/borderline deficiency.

Clinical Symptoms:
- Nearly all women reported chronic knee and lumbar pain.
- Onset: 46 women developed pain within 2 years of migration; 59 after 4 years.
- 6 women presented with swelling in both knees and lumbar pain.

Final Conclusion

This study demonstrates that Afghan migrant women in Pakistan suffer from severe micronutrient deficiencies leading to osteoporosis and chronic musculoskeletal pain. Iron deficiency anemia (62%) is highly prevalent in women aged 20–50, vitamin D deficiency is universal and strongly associated with osteoporosis, and vitamin B12 depletion emerges later in life (>50 years). These deficiencies are interconnected and progressive, representing a preventable but neglected public health emergency. Without intervention, these women face lifelong disability and worsening poverty.

Clinical Impact of Deficiencies

Vitamin D Deficiency:
- Causes weak bones, osteomalacia, and osteoporosis.
- Leads to chronic pain, limited mobility, and increased fracture risk.

Iron Deficiency Anemia:
- Causes fatigue, weakness, dizziness, poor concentration, and depression.
- In reproductive-age women, increases risks during pregnancy.

Calcium Deficiency (secondary to low vitamin D and diet):
- Causes bone demineralization, cramps, stiffness, and accelerates osteoporosis.

Vitamin B12 Deficiency:
- Leads to fatigue, neurological symptoms, and, if untreated, irreversible nerve damage in older women.

Focus for NGOs & Donors

This research is not only clinical but also humanitarian in nature. Afghan migrant women in Pakistan face severe health challenges that are worsened by displacement, poverty, and isolation.

Key Challenges Faced:
- Confinement indoors due to fear of deportation and cultural restrictions.
- Unemployment and financial vulnerability, making it impossible to afford supplements or nutritious food.
- Lack of access to healthcare, leaving deficiencies and osteoporosis untreated.

Action Needed:
1. Micronutrient supplementation programs (iron, vitamin D, calcium, vitamin B12).
2. Community-based healthcare support, including osteoporosis screening and treatment.
3. Emergency donor funding to prevent long-term disability and suffering.
4. Advocacy and protection for migrant women to reduce barriers to sunlight exposure, healthcare access, and mobility.

In Summary:
This research provides strong scientific evidence that Afghan migrant women in Pakistan are facing an urgent yet preventable health crisis. With timely intervention, NGOs and humanitarian partners can correct deficiencies, reduce suffering, and restore dignity and mobility to these women and their families.

Every supplement provided is not just medicine—it is a lifeline for survival, resilience, and hope.

Author Note

This research was conducted by Dr. Mohammad Yama Shahab, MD, DM (Endocrinology & Metabolism), with the support of Mrs. Nadja Muller Co-Founder of HeartWork Foundation, which is advocating for 60 Afghan women and their families and assisting in their relocation to Brazil.

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