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# Impact of Diet and COVID-19 Policies on Osteopenia in a Hispanic White Adolescent Girl

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**Abstract :** Poor lifestyle habits, vitamin D deficiency, and inadequate calcium intake, particularly during the COVID-19 pandemic, may contribute to severe osteopenia in childhood, increasing future fractures and osteoporosis risk. We here present a case of osteopenia in a 13-year-old white, Hispanic, premenarchal girl who completed the baseline visit of the MetA-Bone Trial during the COVID-19 pandemic. The premenarchal girl has a family history of osteoporosis (maternal grandfather) but no previous fractures; moderate outdoor activity was <1 hour/day 3 times/week with 8 hours/day of sleep. Consumption of dairy products and vegetables was <1 serving/day. Lab blood tests confirmed vitamin D deficiency (serum 25(OH)D: 9 ng/L) and hyperphosphatemia (5.2 mg/dL); other tests were normal. DXA scan Z-score was -2.2 SD (indicative of osteopenia by age and sex). The premenarchal girl was referred to a pediatrician, who confirmed the results, and prescribed a daily supplement with 2000 IU of vitamin D and 1000 mg of calcium. Seclusion during the COVID-19 pandemic may have contributed to the severity of the findings. Therefore, we recommend screening children undergoing growth spurts for vitamin D, calcium, and poor lifestyle habits during and after the pandemic.

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