

POOR THERAPEUTIC ADHERENCE IN OSTEOPOROSIS: CAUSES, IMPACT ON PATIENTS OUTCOMES AND FUTURE IMPROVEMENTS

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Adherence is a summary term that is determined by compliance, which describes the quality of intake of a given medication, and persistence, which is defined as the time from treatment initiation to treatment completion/discontinuation. Adherence is thus used to describe the extent and the quality of medication intake. Adherence to medications used in chronic diseases is generally less than adequate, averaging only 50%, and this is particularly true for diseases with few or no clinical symptoms (silent diseases) as the patient does not experience ill effects from the disease or the subsequent benefit from treatment. Compared with other chronic diseases, adherence in osteoporosis is further compromised as patients are unable to monitor their response to therapy. Adherence is also influenced by a patient's beliefs regarding their susceptibility to fractures and other complications.

With established efficacy, oral bisphosphonates are the first-line treatment of choice for managing osteoporosis in postmenopausal women. Clinical trials have confirmed that long-term adherence with oral bisphosphonates is required for optimal and sustained therapeutic benefits in postmenopausal osteoporosis. However, there is growing evidence to suggest that a large number of patients are unable to adequately adhere to current treatment regimens in the long-term. Numerous studies of patients treated in the real world clinical setting indicate that persistence with daily bisphosphonates is suboptimal.

A clinic-based, open-label, observational study investigated persistence to daily alendronate in postmenopausal women with osteoporosis (T-score ≤ -2.5) or osteopenia (T-score -1 to -2.5). The probability of continuing treatment decreased significantly over time to just 30% at 2 years.

Side effects (in particular upper gastrointestinal events) and safety concerns are the primary reason stated for discontinuing therapy, together with a belief that treatment is not needed and a dislike of taking the medication. Inadequate long-term adherence to osteoporosis therapy negatively impacts on therapeutic outcomes, resulting in smaller decreases in bone turnover rates, lower bone mineral density gains, greater risk of fractures, increased risk of hospitalisation and greater costs for medical services. Dosing complexity is a commonly cited reason for poor therapeutic compliance and premature treatment discontinuation. Simplifying dosing by reducing the frequency and/or number of administrations is an often-used strategy for enhancing adherence. For this reason, weekly dosing regimens with bisphosphonates have been introduced.

Recent studies show that postmenopausal osteoporotic women prescribed weekly bisphosphonate regimens do persist with therapy for longer than those taking daily therapy and that the introduction of less frequent bisphosphonate regimens has led to improved persistence and compliance versus conventional daily therapy.

For example, a recent observational study of oral bisphosphonates demonstrated an improvement in weekly over daily dosing. Prescription claims data for 288 women starting a new prescription for weekly or daily alendronate were obtained over a 12-month period from a German general practitioner database. Persistence rates at 6 months were 56.3% and 41%, falling to 46.5% and 27.8% at 12 months for the weekly and daily cohorts, respectively. However, although improved versus daily dosing, these findings demonstrate that persistence and compliance with current weekly oral bisphosphonate regimens remains suboptimal. Similar studies conducted in the USA confirm these findings.