

Health technology assessment in osteoporosis : new perspectives from adherence and preference studies

Citation for published version (APA):

Hilgsmann, M. (2015). *Health technology assessment in osteoporosis : new perspectives from adherence and preference studies*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20150225mh>

Document status and date:

Published: 01/01/2015

DOI:

[10.26481/dis.20150225mh](https://doi.org/10.26481/dis.20150225mh)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

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VALORISATION

This dissertation aimed to review cost-effectiveness analyses of drugs in osteoporosis, to assess the burden of medication non-adherence and effectiveness of programs to enhance adherence, and to evaluate the preferences of patients for medication attributes. All these studies could be useful for decision makers and clinicians in efforts to optimize the management of osteoporosis, while considering efficient allocation of scarce healthcare resources. An efficient prescription of medications, the development of programs to enhance adherence and a better incorporation of preferences in policy and clinical decision making could definitely be useful in tackling the increasing burden of osteoporosis. In addition, our research could serve as case to raise awareness of the general population on the importance of medication adherence in other diseases. Although more research is needed to further explore effectiveness and efficiency of programs to improve adherence, and to decide how we can adequately incorporate a patient's preference in clinical decisions, several societal, economic and clinical implications of the research from this dissertation are already discussed in this chapter.

SOCIETAL IMPLICATIONS

Osteoporosis is an increasingly major public health problem. In western countries, at least one in three women and one in five men over 60 years will suffer from an osteoporotic fracture during their remaining lifetime [1]. Osteoporotic fractures results in significant morbidity, mortality, and reductions in quality of life. In the Netherlands, a recent report by the International Osteoporosis Foundation (IOF) and the European Federation of Pharmaceutical Industry Associations (EFPIA) [2] estimated that approximately 76,000 new fragility fractures were sustained in 2010 and the economic burden of incident and previous fragility fractures was estimated at €824 million for the same year. Moreover, with increasing life expectancy, it is estimated that the number of fractures will even increase by 40% in 2025 [2].

Reducing the burden of osteoporosis by optimizing the management of osteoporosis is therefore becoming very important. This dissertation identified several directions for a better management of osteoporosis. First, we highlighted the substantial clinical and economic burden of non-adherence with osteoporosis medications. Improving adherence is therefore urgently needed and should be (or become) a priority for decision makers and healthcare professionals. Several promising interventions to enhance adherence such as education program or electronic monitoring were identified in a systematic review. We also showed that patients expressed preferences for medication attributes such as mode of administration and potential side effects and revealed a substantial heterogeneity in patients' preferences. Promoting shared-decision making by incorporating the patient's preference in decision making could certainly be useful to optimize osteoporosis management.

ECONOMIC IMPLICATIONS

Considering limited healthcare resources available, it is becoming increasingly important for decision makers to make efficient decisions. Assessing the cost-effectiveness of health interventions is therefore needed to help decision makers and could in fine lead to optimizing the management of osteoporosis and reducing the burden of the disease. This dissertation included several analyses about the economic value of anti-osteoporosis medications that could be useful and used by decision makers. By example, two reviews of recent cost-effectiveness analysis of drugs were performed suggesting that new drugs (such as denosumab) could represent an efficient way of allocating healthcare resources. Another analysis revealed the potential economic value of adherence-enhancing interventions, suggesting that designing and implementing programs to improve adherence could be efficient.

CLINICAL IMPLICATIONS

Alongside societal and economic implications, this dissertation should alert clinicians that manage patients with osteoporosis in daily management of osteoporosis. By improving insight into factors that contribute to the clinical and economic burden of osteoporosis, our studies make clear that clinicians should take care of the adherence of their patients. The variation in the patients' preferences for medication attributes observed in our research highlighted the importance to take into account individual preferences into clinical decision-making to improve osteoporosis care. A first step might be to raise awareness of the avoidable burden by improving adherence and the potential role of education and patient preference.

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