REVIEW OF STUDIES ON ECONOMIC EVALUATION OF TREATMENT OF OSTEOPOROSIS POSTMENOPAUSAL

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Introduction

• The use of economic evaluation studies
  – to support decision-making on health policies
  – incorporating new technologies
  – The development of guidelines for health

• Therapeutic strategies of osteoporosis
  – Effectiveness
  – Costs
Objectives

• To do a complete review of economic evaluations, focusing on the treatment of postmenopausal osteoporosis, conducted in Brazil and abroad
Methods

• Search
  – PubMed
  – National scientific journals

• End date: August 2010

• Software
  – Reference manager version 11.0

• Keywords

  {osteoporosis} and
  {postmenopausal or post-menopausal} and
  {cost effectiveness or cost benefit or cost utility or Economic Evaluation}
Methods

• Inclusion criteria
  – Economic evaluation (cost-effectiveness, cost-benefit or cost-utility)
  – Postmenopausal osteoporosis population
  – Drugs for postmenopausal osteoporosis

• Exclusion criteria
  – Osteoporosis after breast cancer
  – Osteopenia
  – Incomplete economic evaluation
  – Screening strategies comparison
Methods

• Titles and abstracts analysis
  – 2 reviewers
  – Discordant: 3º reviewer

• Analysis of results
  – Local
  – Year of study
  – Perspective
  – Currency
  – Discount rate
  – Target population
  – Intervention
  – Conflicts of interest
  – Incremental cost effectiveness ratio (ICER)
Results

Initial search: 102 titles and abstracts

Exclude: 66 titles

Subtotal: 36

Exclude: 21 abstracts

Total: 20

2nd selection: 5
Results

• Great variability in the methods
  – country (demographic and epidemiological)
  – Perspective
  – Prices
  – valuation of health states by population
  – economic modeling

• Comparison of treatment strategies with no treatment
  – ICER reasonable, according to the WTP of each country
Results

• More cost-effective
  – increasing age
  – decreased bone mineral density (BMD)
  – presence of previous fractures
Results

BIPHOSPHONATES

• In general, biphosphonates were the most valued and the strategies that resulted in better ICER's

• Good effectiveness and threshold within of WTP of each country

Results

BIPHOSPHONATES – cont.

- ICER exceed the WTP of country
- Questioned the use of these drugs considering efficiency criteria due to scarce resources
Results

TERIPARATIDE

- Not cost-effective
  - Stevenson et al (2005)

- Not cost-effective alone

- Cost-effective only for population with osteoporosis previous fracture with BMD t-score -3 after 69 years old
Results

HORMONE REPLACEMENT THERAPY

• Good ICER, but called attention to the increased risk of breast cancer
Results

VITAMIN SUPPLY: calcitriol

• cost-effective when compared to “no treatment”
• better ICER
Results

STRONTIUM RANELATE
• was cost-effective for aging group with previous fractures
  — Strom et al (2007)
  — Hiligsmann et al (2010a)
  — Hiligsmann et al (2010b)

RALOXIFENE
• cost-effective
  — Stevenson et al (2005)
Results

DENOSUMAB

• new drug that is not available for commercialization

— Hilgsmann; Reginster (2010)
Conclusion

• There was no possibility to extrapolate the results to the population of Brazil, limiting its use to decision makers in different locations. The two studies conducted in Brazil are limited.

• Studies are needed in this area focusing on the Brazilian population to support decision makers in the public sector.
Support

CNPq

FAPEMIG
References


- Iglesias CP, Torgerson DJ, Bearne A, Bose U. The cost utility of bisphosphonate treatment in established osteoporosis. QJM 2002; 95(5)305-311.

References

• Silva LK. Avaliação tecnológica e análise custo-efetividade em saúde: a incorporação de tecnologias e a produção de diretrizes clínicas para o SUS. Ciênc. saúde coletiva 2003;8(2):501-520.
• Stevenson M; Jones ML; De NE; Brewer N; Davis S; Oakley J. A systematic review and economic evaluation of alendronate, etidronate, risedronate, raloxifene and teriparatide for the prevention and treatment of postmenopausal osteoporosis. Health Technol Assess 2005; 9 (22) 1-160.
• Ström O; Borgström F; Sen SS; Boonen S; Haentjens P; Johnell O; Kanis JA. Cost-effectiveness of alendronate in the treatment of postmenopausal women in 9 European countries--an economic evaluation based on the fracture intervention trial. Osteoporos Int. 2007 Aug;18(8):1047-61.