Cost Utility Analysis of Biofeedback versus Traditional Therapy for Dyssynergic Defecation in Adults

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Background

• Annual cost of chronic constipation (CC) exceeds 1.7 billion dollars in the US
• Dyssynergic defecation (DD) is a common cause of CC
• DD is the uncoordinated abdominal, pelvic floor, rectal and/or anal sphincter muscle function resulting in impaired evacuation of stool.
• The treatment of DD is challenging resulting in patient dissatisfaction with traditional therapy (TT) including diet, laxatives, anxiolytic and muscle relaxants
• Biofeedback therapy (BF) including intrarectal manometric probe, electromyographic feedback, and intrarectal balloon training is commonly utilized in the treatment of DD

Aim

To assess the cost effectiveness of BF versus TT in adults with DD from a third party payer perspective

Methods

A decision tree was constructed to predict the expected third party payer costs over 1 year period for DD following BF vs. TT

- BF costs obtained from 2010 CMS Physician Fee Schedule
  $769 (initial visit + 11 follow up visits)
- Yearly cost of CC to third party payer from large HMO data
  $7522 (95% CI: $5689 - $9146)

Response rates at 1 year: Response defined as:
- Adequate response in bowel symptoms
- Or significant improvement in bowel satisfaction

Assumptions for expected cost:
- Responders: Incur pharmacy costs +/- BF costs
- Non-responders: Incur annual costs of CC +/- BF costs

Treatment effectiveness at 1 year:
- VAS score assessing bowel symptom satisfaction & BM frequency

Results

Response Rates of BF versus TT

Improvement in Bowel Symptom Satisfaction Score (by VAS) from baseline at 1 year

Expected cost savings at 1 year with BF vs. TT

Summary

• Treatment response rates at one year are higher with BF than TT in DD
• Expected treatment costs to a third party payer for DD at one year are less with BF compared to TT
• Trend towards greater bowel symptom satisfaction (by VAS) with BF compared to TT at 1 year
• Significant improvement in bowel movement frequency with BF compared to TT at 1 year
  - Increase by 2.8 BMs/week vs. no change (p = 0.023)
  - Increase by 2.9 CBMs/week vs. no change (p = 0.005)

Conclusions

- From a third party payer perspective biofeedback is cost saving and more effective than traditional therapy in the treatment of dyssynergic defecation