A pilot randomised controlled trial of an internet-based cognitive behavioural therapy self-management programme (MS Invigor8) for multiple sclerosis fatigue

Moss-Morris R, McCrone P, Yardley L, van Kessel K, Wills G, Dennison L

Record Status

This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary

This study examined the cost-effectiveness of internet-based cognitive-behavioural therapy, with a clinical psychologist, for the self management of multiple sclerosis (MS) fatigue. The authors concluded that the programme could be clinically effective and cost-effective, and more research was needed. The analysis was based on a pilot trial and provided preliminary information on the cost-effectiveness of the intervention. The authors' conclusions appear to be valid for the analysis presented.

Type of economic evaluation

Cost-utility analysis

Study objective

This study examined the cost-effectiveness of internet-based cognitive-behavioural therapy, with a clinical psychologist, for the self management of multiple sclerosis (MS) fatigue.

Interventions

The programme was eight weekly interactive sessions, with self assessments, which allowed the programme to be tailored to the individual's problems and progress. Each session included homework tasks that were reviewed in the next session. Patients also received three telephone support sessions. The programme team included a software manager, software developers, health psychologists, and an expert in MS.

This was compared with the standard care, without any internet-based support.

Location/setting

UK/community.

Methods

Analytical approach:

The analysis was based on one study, with a 10-week time horizon. The perspective was not explicitly stated.

Effectiveness data:

The clinical data were from a pilot randomised controlled trial (RCT). Power calculations were performed to determine the sample size. Eligible patients were allocated to the intervention and control groups by an automated simple randomisation system. Participants were followed-up for 10 weeks. Of the 122 patients initially screened, 45 were included; five, from the control group, were withdrawn because they erroneously accessed the internet intervention. This left 23 patients (mean age 40.14 years; SD 17.76) in the internet group, and 17 patients (mean age 41.81 years; SD 11.43) in the control group. The efficacy of the programme, in reducing the severity and impact of fatigue, was the primary endpoint of the trial and this was estimated using the ordinal version of the Fatigue Scale.

Monetary benefit and utility valuations:

The utility values were estimated using the European Quality of life (EQ-5D) instrument, which was completed by the patients enrolled in the clinical trial, at baseline and after 10-weeks.

Measure of benefit:

Quality-adjusted life-years (QALYs) were the summary benefit measure.

Cost data:
The economic analysis included the costs of visits to various health care professionals, in-patient stay, intensive care unit stay, and home help. The unit costs and quantities of resources were presented separately. The resource use was from the pilot RCT. The costs were estimated using official tariffs for the UK NHS. All costs were in UK £, for the financial year 2007 to 2008.

Analysis of uncertainty:
Standard deviations around the means were presented for the costs and the QALYs.

Results

The expected total costs per patient were £211 with the intervention, and £214 without it.

The mean QALY gain was 0.1212 with the intervention, and 0.1243 without it. After considering the baseline difference in quality of life, there was a gain of 0.015 QALYs with the intervention, and this was statistically significant (p=0.038).

There was no significant difference in the costs and a slight improvement in QALYs, with the intervention.

Authors' conclusions

The authors concluded that the programme could be a clinically effective and cost-effective treatment for MS fatigue, and more research was needed.

CRD commentary

Interventions:
The selection of the comparators was clear as the authors compared the intervention with the usual care for patients with MS fatigue.

Effectiveness/benefits:
The clinical analysis was satisfactory. The evidence was appropriately from a RCT, which was carried out for the economic evaluation. The flow of participants through the trial was reported and the reasons for loss to follow-up were given. Power calculations ensured that an appropriate number of patients was included. As it was a pilot trial, the analysis was mainly descriptive; preliminary treatment effect intention-to-treat analyses were carried out, using linear models with the group as the fixed factor and the baseline for the outcome as the covariate. The two groups were balanced at baseline for age and time since diagnosis, but there were significant differences in the percentage of patients by gender, with progressive disease, and by ambulatory difficulties. Adjustments were made for these differences when analysing the outcomes. The clinical endpoints were appropriate for the study question and for MS fatigue. QALYs were a valid benefit measure, as they capture the impact of fatigue on patients. The use of the EQ-5D with patients enrolled in the trial was valid.

Costs:
The perspective was not explicitly stated, but the cost categories and the sources reflect the viewpoint of the third-party payer. The quantities of resources and the unit costs were provided, increasing the transparency of the analysis. The resource use was accurately collected, alongside the clinical trial. The sources for the unit costs were relevant to the UK. The price year was reported, allowing reflation exercises, but no variations in the costs were considered.

Analysis and results:
The results were clearly presented. Incremental cost-utility ratios were not calculated, presumably because of the lack of a difference in costs between the groups. The uncertainty was not investigated. The authors reported that participants had problems in completing the internet-based programme within 10 weeks and some patients completed the programme later. This study was a pilot analysis and a larger RCT was needed. The results appear to be specific to the UK and cannot be transferred to others settings.

Concluding remarks:

The analysis was based on a pilot trial and provided preliminary information on the cost-effectiveness of the intervention. The authors' conclusions appear to be valid for the analysis presented.

Funding
Funded by a grant from the UK MS Society.

Bibliographic details
Moss-Morris R, McCrone P, Yardley L, van Kessel K, Wills G, Dennison L. A pilot randomised controlled trial of an internet-based cognitive behavioural therapy self-management programme (MS Invigor8) for multiple sclerosis fatigue. Behaviour Research and Therapy 2012; 50(6): 415-421

PubMedID
22516321

DOI
10.1016/j.brat.2012.03.001

Original Paper URL
http://linkinghub.elsevier.com/retrieve/pii/S0005-7967(12)00051-4

Indexing Status
Subject indexing assigned by NLM

MeSH
Adult; Cognitive Therapy /economics /methods; Cost-Benefit Analysis; Fatigue /economics /etiology /therapy; Female; Humans; Internet; Male; Middle Aged; Multiple Sclerosis /complications /economics; Patient Compliance; Patient Satisfaction; Pilot Projects; Quality of Life; Remote Consultation /methods; Self Care /methods; Treatment Outcome

AccessionNumber
22012019916

Date bibliographic record published
06/12/2012

Date abstract record published
09/01/2013