The clinical and cost-effectiveness of two different programs for rehabilitation following ACL reconstruction

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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.

Health technology
Rehabilitation following anterior cruciate ligament (ACL) reconstruction.

Type of intervention
Rehabilitation.

Economic study type
Cost-effectiveness analysis.

Study population
A group of 60 consecutive patients (42 males and 18 females, mean age 24.7 (+

Setting
Hospital. The economic study was carried out in Saginaw, MI, USA.

Dates to which data relate
The effectiveness data were taken from a clinical trial which began enrolment in 1993. Resource use data were collected from the same patient sample. The source of the cost data was not reported.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
The costing was undertaken prospectively on the same patient sample as that used in the effectiveness study.

Study sample
A group of 60 consecutive patients was recruited to the trial; 30 received the established rehabilitation protocol and 30 received a Protonics exercise regimen in addition to the traditional exercise rehabilitation techniques. No power calculations to determine the sample size were given.

Study design
Randomised controlled trial. The duration of the follow-up was 1 year after discharge from rehabilitation. There were no losses to follow-up.
Analysis of effectiveness
The analysis of the clinical study was based on treatment completers only. The primary health outcomes used in the analysis were the estimates of the rehabilitation time period needed for a patient to return to unrestricted physical activities and patients' functional status.

Effectiveness results
The subjects in the intervention group (Protonics group) were estimated to complete their rehabilitation programme an average of 3.3 weeks (average 19.8 (+/- 0.6) weeks) earlier than those in the comparator group (average 23.1 (+/- 0.3) weeks) (p<0.001). There was no difference between groups in achievement of the criteria for the return to activity phase.

Clinical conclusions
Both programmes were effective in terms of returning the subjects to unrestricted physical activity before 6 months after surgery and both programmes had positive results for functional outcomes at the 1-year follow-up, although the Protonics group had significantly earlier return to activity.

Measure of benefits used in the economic analysis
The intervention was assumed to be the dominant strategy and no specific measure of benefit was used.

Direct costs
Only the cost per rehabilitation session was estimated. The source of the cost estimate used was not stated. Quantities and costs were reported separately. Costs were not discounted. The price data date was not stated.

Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was conducted.

Estimated benefits used in the economic analysis
The intervention was assumed to be the dominant strategy and no specific measure of benefit was used.

Cost results
The treatment for the intervention group (Protonics) was estimated to cost $990.00 (+/- $90.00) less per subject (average $5,940.00 (+/-$180.00)) compared to the traditional rehabilitation programme (average $6,930.00 (+/- $90.00)) due to the shorter period of rehabilitation.

Synthesis of costs and benefits
The authors did not undertake a synthesis since the intervention was the dominant strategy. An incremental analysis was not performed.

Authors' conclusions
The Protonic exercise programme was more effective and cost-effective than the other programme, although both methods were successful for post-surgical anterior cruciate ligament rehabilitation.
CRD COMMENTARY - Selection of comparators
The reason for the choice of comparator is clear. The Protonics exercise is a new method of treatment which has been introduced.

Validity of estimate of measure of benefit
The estimate of measure of benefit used in the economic analysis may not be valid. This was a very small randomised controlled trial for which very little detail was provided regarding the methodology used (e.g. method of randomisation, blinded outcome assessment). The study is unlikely to have produced unbiased results.

Validity of estimate of costs
Very little detail was provided on the methods of quantity/cost estimation used. Only the cost of the rehabilitation session was used, and the source of this cost is unknown. The cost data provided in the study are likely to be unreliable and do not provide a true estimate of the implications of introducing a new programme.

Other issues
The author's conclusions may not be justified, given the uncertainties in the data.

Source of funding
None stated.

Bibliographic details

PubMedID
8979175

DOI
10.2519/jospt.1997.25.1.43

Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
Adult; Anterior Cruciate Ligament /injuries /surgery; Cost-Benefit Analysis; Evaluation Studies as Topic; Exercise Therapy /economics /methods; Female; Humans; Knee Injuries /rehabilitation /surgery; Male; Program Evaluation; Range of Motion, Articular; Treatment Outcome

AccessionNumber
21997000151

Date bibliographic record published
31/03/1999

Date abstract record published
31/03/1999