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The Cost-Effectiveness of Nurse-Led Care in People with RA

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Objective

The objective of this study was to determine the cost effectiveness of nurse-led care (NLC) in people with RA.

Methods

This was a cost-effectiveness study done alongside a multicentre randomized controlled trial (RCT). Patients were randomized to either NLC (experimental) or rheumatologist-led care [RLC (control)]; both arms carrying out their normal practice.

Patient inclusion criteria were: aged above 18 years, definite diagnosis of RA, and ability to complete questionnaires unaided. The primary outcome was the DAS28 assessed by independent assessors at baseline, and at four equidistant follow-up points over 1 year. In addition, EuroQoL (EQ5D) was assessed at the same time-points and quality-adjusted-life-years (QALYs) utility values were derived. The cost data were collected by clinic audits and patient questionnaires assessing the resources used and cost (NHS, healthcare and societal cost perspectives).

Mean differences between the groups were estimated controlling for age, gender, centre and baseline DAS28 or EQ5D, following per-protocol (PP) and intention-to-treat (ITT) strategies (missing data being accounted through multiple imputation). The cost effectiveness analysis estimated cost relative to DAS28 and quality-adjusted-life-years

(QALYs). Joint parameterization was achieved via bootstrap evaluation of the imputed datasets, and estimates were plotted using cost-effectiveness planes and cost effectiveness acceptability curves.

Results

The sample comprised 181 patients (91 under NLC and 90 under RLC) and there were no significant difference in their baseline differences or proportion of patients with low or medium-high disease activity.

The mean change in DAS28 over the follow up was greater in the NLC group than the RLC group—this being statistically significant at all individual follow up time points and for the primary endpoint evaluation (i.e. average DAS change). However the effects in relation to QALYs favoured RLC.

Average costs and in particular clinic costs were markedly lower in the NLC group, indicating a cost-efficient service under a cost-minimization approach to economic evaluation. The cost-effectiveness of NLC was clearly evident in respect of the DAS28 change [estimated probability that NLC is cost-effective exceeded 90% for a cost as little as £2000 per 0.6 change in DAS28 (i.e. MCID)]. However, at a guideline willingness-to-pay (WTP) threshold of £20000–£30000 per QALY, the probability of NLC being cost-effective was decreased (58–68% via PP and 37–42% via ITT analyses).

Conclusions

The conclusion around the cost-effectiveness of NLC is somewhat equivocal; the results being dependent on the outcome (DAS28 or QALY) and WTP threshold.

Citation

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