A New Post-Diagnostic Psycho-Education and Acceptance and Commitment Therapy Program for Caregivers of Children Recently Diagnosed With Autism Spectrum Disorder (REACH-ASD): A Trial-Based Cost-Effectiveness Analysis

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Key points

- This within-trial analysis reports the potential cost-effectiveness of the Empower-Autism intervention for caregivers of children with autism.
- The intervention was associated with increased costs and a marginal improvement in QALYs, however, there is uncertainty in the results.
- Sensitivity analyses indicate that there are situations in which the intervention could be cost-effective.
- Future research is needed to investigate these further and to address some of the limitations (e.g., collecting more data over a longer time frame).

Background

- Many autistic individuals require ongoing support across their lifetime [1] and autism can have large impacts on not only the individual, but also their family and society.
- Caregivers of children with Autism Spectrum Disorder (ASD) have been noted to experience increased rates of mental health difficulties and employment challenges [2].
- In the UK, the National Institute for Health and Care Excellence (NICE) recommend provision of timely post-diagnostic family support [3, 4].

Aim: to evaluate the cost-effectiveness of a new brief manualised psychosocial intervention (Empower-Autism) plus treatment as usual (TAU), in comparison to TAU alone, for caregivers of children recently diagnosed with ASD.

Methods

- The economic evaluation was embedded into a 52-week multi-centre, two parallel group single-blinded RCT (REACH-ASD).
- Primary caregivers of children with a recent autism spectrum (ASD) diagnosis were recruited (n=379).
- The Empower-Autism intervention is a caregiver group-based manualised post-diagnostic programme that combines autism psychoeducation and a brief Acceptance and Commitment Therapy (ACT).
- Participants in the intervention arm could also access Treatment as Usual (TAU). The comparator arm (TAU alone) received the usual local post-diagnostic offers which varied by area.
- The trial prospectively collected economic data for participants, including:
  - Health and social care service use
  - Health status (EQ-5D-5L)
  - Productivity losses.
- Economic data were also collected for the children with a recent ASD diagnosis, including health and social care use, health-related quality of life (CHU9D) and accommodation/respite care services.
- The primary analysis was conducted from a UK NHS and personal social services (NHS/PSS) perspective, with a 52-week time horizon (reflecting the final trial follow-up).
- Missing data were imputed using multiple imputation.
- Uncertainty was explored by probabilistic bootstrapping and sensitivity analyses tested the impact of the study design and assumptions on the incremental cost-effectiveness ratio (ICER).
- The health economic analysis plan is available on the ISRCTN registry (https://doi.org/10.1186/ISRCTN45412843).

Results

- The trial analysis was affected by the high level of missing data and the primary (n=379) and complete case (n=125) analysis have contrasting ICERs and probability of cost-effectiveness.

Analysis	Net cost (95% CI)	Net QALY (95% CI)	ICER (£/ QALY) [probability of cost-effectiveness at £30k/QALY)
Complete case (n=125)	£786 (-£294 to £1,865)	0.049 (-0.003 to 0.101)	£16,097 [73%]
Primary (n=379)	£756 (£391 to £1,122)	0.015 (-0.008 to 0.038)	£51,227 [19%]

- The use of child data returned similar results (net cost and net QALY increases though neither of these were statistically significant).
- Using the GHQ-30 (trial primary outcome), which focuses on mental health, as an alternative measure of benefit resulted in an ICER of £150 per point improvement.
- Sensitivity analysis suggest that there is the potential for Empower-Autism to be cost-effective under certain circumstances. E.g., with larger group sizes and the inclusion of productivity losses.

Conclusions

- The results demonstrate uncertainty, likely in part due to the proportion of participants with complete data. Data completeness is likely to have been affected by the COVID-19 pandemic.
- The QALY gain is positive, though it is not significant and there are concerns around whether the EQ-5D is sensitive to detect changes key to this population within this timeframe. Clinical measures, such as the GHQ-30, could be argued to be more reflective of important changes in health/wellbeing.
- The analyses indicate that there are situations in which intervention could be cost-effective. This includes summing both parent and child QALYs, using alternative measures of health, adjustments to intervention delivery (i.e., higher group sizes which would be manageable in a real world setting) and taking a societal perspective).

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REACH-ASD TRIAL

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