BACKGROUND: The majority of mental health problems are non-psychotic (e.g., depression, anxiety, and phobias). Art therapy is currently being used in the UK for a variety of mental health conditions. This cost-effectiveness analysis formed part of a health technology assessment for the National Institute for Health Research.

OBJECTIVES: To conduct a cost-utility analysis of studies evaluating cost effectiveness of art therapy and identify areas in need of further research.

METHODS: Comprehensive searches to inform a systematic review of the clinical and cost-effectiveness of art therapy were performed. No existing models of art therapy were identified. As such, a de novo mathematical model was constructed with data from a single included in the clinical review. An area under the curve model was developed to estimate the gain in utility with the following assumptions in the base case: 1. That the maximum treatment effect would be associated with the time at which treatment ended 2. That there would be a linear increase in treatment effect, from the baseline to the maximum at the time at which treatment ended. 3. That there would be a residual effect of treatment with a linear decline in benefit until there was zero benefit at 52 weeks. 4. That given the short assumed duration of benefit, discounting of future costs and benefits was not necessary.

RESULTS:

Table 1: Distributions used in the probabilistic sensitivity analyses

<table>
<thead>
<tr>
<th>Utility gain in the Monti et al., RCT of art therapy compared with wait-list control</th>
<th>Utility gain in the Monti et al., RCT of art therapy compared with wait-list control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Value</td>
<td>0.078</td>
</tr>
<tr>
<td>2.5% Percentile</td>
<td>0.034</td>
</tr>
<tr>
<td>97.5% Percentile</td>
<td>0.119</td>
</tr>
</tbody>
</table>

Only the Short Form (36) Health Survey (SF-36) data reported in Monti et al., comparing group art therapy with wait-list control, could be mapped to EuroQol EQ-5D for the primary analysis. No other outcome measures from the RCTs could be directly mapped. The Monti et al., RCT also reported Global Severity Index (GSI) data through which a secondary mapping using GSI data reported in Thyme et al., comparing group art therapy with group verbal therapy could be performed as secondary analyses. Two published SF-36 to EQ-5D mappings were used to assess the sensitivity of the results. Probabilistic sensitivity analyses were performed. Threshold analyses were undertaken to assess the utility gain required to have a cost per QALY of £20,000.

Figure 1: An illustration of the conceptual model of utility

The threshold analysis showed that even under unfavourable assumptions the utility gain required to be cost effective would be below 0.04. This value is below that mapped from Monti et al. (0.078) indicating that art therapy was likely to be seen as cost effective compared with wait list. There was considerable uncertainty in the results comparing art therapy and verbal therapy.

DISCUSSION: The results are associated with uncertainty due and there is potential confounding in the included RCTs. In neither comparison was the art therapy intervention similar to that employed in England and Wales, and as such, the generalisability of the results to practice in England and Wales is uncertain.

CONCLUSIONS: Art therapy appears cost effective versus wait-list but of uncertain value compared with verbal therapy. Controversial studies are required to allow more definitive statements to be made.


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Figure 2: Histogram of art therapy utility gain compared with wait list estimated from Monti et al.

Figure 3: CEAC from Monti et al.

Figure 4: Histogram of verbal therapy utility gain compared with art therapy estimated from Thyme et al.

Figure 5: CEAC from Thyme et al., 2007

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Figure 2-5 using mapping from Ara & Brasier (2008), assuming 52 weeks residual benefit and costs per patient from Curtis (2013)