Complementary & Alternative therapies for children diagnosed with Attention-Deficit Hyperactivity Disorder (ADHD): a scoping review

A report prepared for Cerebra

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Peninsula Medical School

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SUMMARY

There is considerable interest in the use of complementary therapies for the condition among parents of children with Attention-Deficit Hyperactivity Disorder (ADHD). Cerebra commissioned a team at Peninsula Medical School to carry out a scoping report describing studies which have been published evaluating the efficacy and safety of complementary and alternative medicines for children with ADHD. The aim was to guide decisions about fruitful directions for further work.

A systematic search for studies using multiple sources identified 269 studies evaluating a wide range of complementary therapies in children with ADHD.

The majority of identified studies were published in the last decade, and in English. Much of the accumulated evidence involves small samples and less than a third were randomised controlled trials. There are some systematic reviews, notably Cochrane Reviews on meditation and homeopathy with two other Cochrane Reviews on acupuncture and fatty acid supplementation in preparation. There is also a sizeable literature on biofeedback and elimination diets. Other areas with a reasonable amount of literature include relaxation and herbal medicines, which includes a reasonable number of randomised clinical trials, albeit a number of which are in Chinese.
PROJECT TEAM

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INTRODUCTION: BACKGROUND AND PURPOSE

Attention-deficit hyperactivity disorder

Attention-deficit hyperactivity disorder (ADHD) is a group of behavioural difficulties that encompass inattentiveness, hyperactivity and impulsiveness. The symptoms in children and teenagers are well defined and include:

- a short attention span
- restlessness
- being easily distracted
- constant fidgeting

Many children with ADHD also have additional problems, such as sleep disorders or learning difficulties. However, ADHD has no effect on intelligence.

ADHD a relatively common condition in which difficulties tend to start at an early age and may become more noticeable when a child's circumstances change, such as starting school. ADHD is normally diagnosed between the ages of three to seven, although in some cases it may not be until much later. However, even if diagnosed in adulthood, there will be a history of difficulties stretching back to early childhood. It is more commonly diagnosed in boys, but there is evidence that ADHD in boys is more likely to be diagnosed, with the gender ratio being much smaller in studies of the general population than studies of children attending clinics.

There is no cure for ADHD, but it can be managed using medication. This will usually be combined with psychological, educational and social therapies that aim to improve behaviour.*

*Information derived from: NHS Clinical Knowledge Summaries (formerly PRODIGY)
www.cks.nhs.uk/patient_information_leaflet/attention_deficit_hyperactivity_disorder_adhd#459891000 (website accessed 5/1/11)

Complementary and Alternative medicine (CAM)

The term alternative medicine refers to medical systems that do not fit with conventional medicine, having different ideas on causes of disease, methods of diagnosis and approaches to treatment and may be seen as a replacement for conventional healthcare. Complementary medicine refers to those methods which can be used alongside or to 'complement' conventional medicine. Today the term “CAM” is often used to include both approaches. Defining CAM is not straightforward but the general explanation is that it comprises a group of therapies, practices and approaches to healthcare which are found outside mainstream conventional medicine #. Examples may be found in the methods section of this report (page 8).

# Information derived from the NHS CAM Specialist Library
NHS therapy for ADHD

NHS therapy for ADHD is underpinned in England and Wales by NICE guidance 1, 2 and in Scotland by SIGN guidance. 3 The guidelines do not cover complementary therapies in any detail. However some guidance and discussion is given on the following:

Elimination Diets and dietary supplements

NICE guideline 1 section 1.4.2: elimination diets and fatty acid supplements are not recommended for the treatment of ADHD in children.

SIGN guideline 3 Chapter 8.1 : elimination diets may help in some cases but inadequate evidence for iron, zinc, fatty acid supplements and antioxidants.

Antidepressants (not licensed for children with ADHD)

Section10.12 of the full version of the NICE guideline 2 states that there is no evidence that tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs) or serotonin and noradrenaline reuptake inhibitors (SNRIs) are of value in the treatment of ADHD. There is no specific recommendation regarding their use either in the NICE version of the guideline (section 1.5) 1 nor in the SIGN guideline section on unlicensed medications (section 7.4). 3

Other approaches

There is a discussion on recreation, biofeedback and relaxation in section 7.4 of the full version of the NICE guideline. 2 Section 8.2 of the SIGN guideline 3 briefly mentions Bach flower remedies, homeopathy, massage and biofeedback. There are no recommendations for the use of any complementary therapies and a small and poor quality trial literature is noted. Although both guidelines are relatively recent their usefulness is limited because:

- Complementary therapies are not generally provided by the NHS so are not covered in great detail
- Evidence is usually limited to Randomised Controlled Trials (RCTs) published in the English language in peer reviewed journals

In addition research is ongoing and even the most recent guidance is usually based on a literature review up to two years out of date when published.

Complementary therapies and ADHD

There is considerable interest amongst the general public in complementary therapies. Parents purchase complementary therapies for a variety of conditions in children, including ADHD, either in place of, or as an adjunct to standard treatments. Many remedies and therapeutic interventions are advertised and sold particularly on the internet. Efficacy claims may be made
for certain products that may be difficult for parents and carers to verify and there are also concerns about safety and cost.

Purpose of the review

The purpose of this literature ‘scoping’ exercise was to ascertain whether there is any potential evidence base (clinical studies or trials) for the use of various complementary therapies - both ingested and other - for the treatment of children diagnosed with Attention Deficit Hyperactivity Disorder.

No critical appraisal of any studies was undertaken in the scoping exercise, as this was beyond the brief. However, any evidence base that was found could, at a later stage, form the basis of a systematic review of the literature to better inform parents and carers about therapy options.
Methods: Literature Search

The following search protocol was agreed by the working group. Parameters were as follows:

**Population**
Children aged 0-19 with a diagnosis of ADHD i.e. NOT the general population

**Interventions**
Any complementary therapies, both ingested remedies and other therapies with emphasis on the following:

**Ingested remedies**
Herbal medicines including:
- Chinese medicines
- St John’s Wort (hypericum)
- Gingko biloba
- Ginseng( panax quinquefolium)
- Valerian
- Rhodiola rosea
- Bacopa
- Kava kava
- Echinacea
- Arnica
- Flower remedies (e.g. Bach)

Homeopathy and homeopathic preparations

**Therapies**
- Acupuncture
- Aromatherapy
- Meditation
- Massage
- Yoga
- Hypnotherapy
- Reflexology
- Relaxation
- Vision therapy
- Ayurveda (combination of diet, yoga, massage, herbal remedies)
- Auditory/ Sensory integration therapy
- Creative therapies (including art/ drama/ dance, music)

**Dietary Modifications**
Supplements
- Fatty acids (Essential Fatty Acids (EFAs), Polyunsaturated fatty Acids (PUFAs), Omega 3, 6, 9, fish oils including Equazen eye Q liquid (citrus, vanilla etc)
- Vitamins
• Magnesium
• Iron
• Zinc

Elimination Diets
• Feingold diet
• Artificial food additives especially colours and preservatives
• Sugar
• Aspartame
• Cow’s milk

Other Ingested
• Antidepressants of the types: Serotonin precursors, SSRIs, SNRIs, Sam-e (s-adenosylmethionine)#
• Melatonin#

Other therapies
• Biofeedback/neurofeedback*
• Commercial programmes including Brain Gym, Brainwave, BIBIC, Life Coaches, Lightning Process, DDAT, Dore, Sunrise, Da Vinci Method, Dyscovery Centre)*

#drugs licensed for other conditions but not for children with ADHD
* We looked for evidence for these only as stand-alone therapies not in the context of a recognised cognitive behavioural therapy (CBT) programme

Comparison
Usual care

Outcomes
These were not included in the database search but outcomes noted in any abstract from a selected study were extracted and tabulated in the results below.

Study types and exclusions
Systematic reviews, meta-analyses and all experimental, observational or qualitative research were included.

Animal studies, narrative reviews, opinions, letters and editorials were excluded

Limits
No language or date limits were used and the databases were searched from their inception

Databases
Search strategies were devised from the above protocol to interrogate the following medical and databases as agreed by the panel: (for detailed search strategies see appendix 1)
The following clinical trials databases were also searched for unpublished or ongoing trials:

- Current Controlled trials [www.controlled-trials.com/mrct](http://www.controlled-trials.com/mrct)

**Further searches**

- SIGLE – only available to 2005 (grey literature) [http://opensigle.inist.fr](http://opensigle.inist.fr)
- HSTAT database (technology appraisals - global coverage) [http://www.ncbi.nlm.nih.gov/books/]  
- The following websites and databases relevant to the area of complementary therapies were also searched for any additional references:
  - Complementary and Alternative Medicine Specialist Library in the National Library for Health [www.nlh.nhs.uk](http://www.nlh.nhs.uk)
  - Complementary and Alternative Therapies databases of Bandolier
  - Research Council for Complementary Medicine [www.rccm.org.uk](http://www.rccm.org.uk)
  - HerbMed (herbal medicine) [www.herbmed.org](http://www.herbmed.org)
  - Hom-Inform (homeopathy) [http://hominform.soutron.com](http://hominform.soutron.com)
  - CAIRSS (music therapy literature) [http://ucairss.utsa.edu](http://ucairss.utsa.edu)

The reference lists of included studies from the two relevant Cochrane systematic reviews were also cross checked. 

Clinical trials were added to the published studies found via the electronic database search but no further studies were found during the further searches.

The cut off date for all searches was **10 December 2010**.

Once all the databases were searched, results combined and duplicates removed an abstract list of the results was produced. This was scanned by hand for potentially relevant studies using the criteria in the protocol. As studies were extracted they were coded for intervention(s), outcome measure(s) and study type and size. Language other than English was also noted. Each paper was given a single study type but in many cases there
were multiple interventions (e.g. *Panax ginseng* and *Gingko biloba*) and outcome measures (e.g. Conner’s parent scale and CGI- Clinical Global Impression).
Results

Search Process

Search all databases (Medline etc), and combine results = 1706 hits

Remove the duplicate references = 1087 hits

Scan abstracts for potentially relevant studies = 251 hits

Add results of search for Clinical trials (18)

Add results of other searches (0) = 269 hits

Study design

The type of study was judged from often inadequate information in the title or abstract. Even where information was given this might sometimes be misleading and it would be necessary to obtain full text to make a more accurate assessment. It is probable that the number of systematic reviews and randomised clinical trials is actually overstated and the number of studies with an inferior design understated.

Table 1: Number of studies by methodology

<table>
<thead>
<tr>
<th>Study type</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic Reviews/ meta-analyses</td>
<td>45</td>
</tr>
<tr>
<td>Randomised trials</td>
<td>79</td>
</tr>
<tr>
<td>Comparative studies</td>
<td>55</td>
</tr>
<tr>
<td>Other study designs including qualitative</td>
<td>90</td>
</tr>
<tr>
<td>TOTAL</td>
<td>269</td>
</tr>
</tbody>
</table>
Language of publication

We have assumed the study language to be English unless otherwise stated. This information therefore probably slightly understates the number of studies where the full text is in a language other than English since many of the databases do not state the language of the studies. The most frequently occurring language after English is Chinese. We identified 14 studies published in Chinese - Chinese medicines (5), acupuncture (3), Chinese medicines and acupuncture (1), neurofeedback (3), sensory integration therapy (1) and SSRIs (1).

Table 2: Number of studies by language of publication

<table>
<thead>
<tr>
<th>Language</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
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<tr>
<td>Chinese</td>
<td>14</td>
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<td>German</td>
<td>4</td>
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<tr>
<td>Polish</td>
<td>2</td>
</tr>
<tr>
<td>Portuguese</td>
<td>1</td>
</tr>
<tr>
<td>Russian</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>269</strong></td>
</tr>
</tbody>
</table>

Publication dates

More of the selected studies were published in the 2000s than in the previous four decades combined. This partly reflects both a general increase in publication and growth of indexing in electronic databases but it is also an indicator of an increasing acceptance of the concept of ADHD and increasing research focus on interventions including complementary therapies. In recent years the focus has been on biofeedback and fatty acid supplements, the latter having the most studies of any topic amongst the selected studies appearing in 2009. There is also an increase in studies on herbal medicines, including Chinese remedies.

Table 3: Number of studies by date of publication

<table>
<thead>
<tr>
<th>Decade</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010s (2010-pre-publication)</td>
<td>29</td>
</tr>
<tr>
<td>2000s</td>
<td>147</td>
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<tr>
<td>1990s</td>
<td>43</td>
</tr>
<tr>
<td>1980s</td>
<td>38</td>
</tr>
<tr>
<td>1970s</td>
<td>11</td>
</tr>
<tr>
<td>1960s</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>269</strong></td>
</tr>
</tbody>
</table>
Study size

Most of the studies were small. Nearly two thirds of the studies where this information was given in the abstract (170 studies) had fewer than 50 participants. The topics of the four largest studies were; antidepressants including SSRIs (although this was a meta-analysis where the results from studies involving 4800+ participants were pooled); food colourings (a double blind challenge study with 1873 participants) and fatty acid, zinc and magnesium supplementation (an 810 participant cohort study and a 674 RCT-zinc only).

Table 4: Number of studies by number of participants

<table>
<thead>
<tr>
<th>Number of Participants</th>
<th>Number of Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10</td>
<td>23</td>
</tr>
<tr>
<td>10-19</td>
<td>31</td>
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<tr>
<td>20-29</td>
<td>24</td>
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<tr>
<td>30-39</td>
<td>19</td>
</tr>
<tr>
<td>40-49</td>
<td>15</td>
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<tr>
<td>50-100</td>
<td>34</td>
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<tr>
<td>100-500</td>
<td>20</td>
</tr>
<tr>
<td>Over 500</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>170</strong></td>
</tr>
</tbody>
</table>

Interventions by Study Type

Some of the topics searched for but not mentioned in the table may have been included in papers dealing with a range of substances e.g. herbal remedies in general. We have extracted individual names where these were specified in the abstract. Papers on chiropractic, transcranial magnetic stimulation (TMS), outdoor recreation and carnitine supplementation were also found though not included in the original list. The totals exceed the number of included studies as some studies dealt with more than one intervention eg fatty acids and vitamins or ginseng and gingko biloba.

The largest number of studies is on biofeedback, followed by fatty acid supplements and dietary modification. There are currently Cochrane protocols for systematic reviews on acupuncture and fatty acid supplements in ADHD. Contact details for these are in appendix 2. The studies on antidepressants need to be noted in the light of NICE/ SIGN guidance (see page 4).
<table>
<thead>
<tr>
<th>Interventions</th>
<th>SR</th>
<th>RCT</th>
<th>Comp</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herbal (general including flowers)</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>15</td>
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<tr>
<td>Chinese medicines</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Gingko biloba</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Ginseng</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Valerian</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>St John’s Wort</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Homeopathy</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Acupuncture</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Aromatherapy</td>
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<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Meditation</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Massage</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Yoga</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td>4</td>
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<tr>
<td>Hypnotherapy</td>
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<td></td>
<td>1</td>
</tr>
<tr>
<td>Relaxation</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Auditory/ Sensory Integration therapy</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Art Therapy</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Dance</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Therapy</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Outdoor recreation</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
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<td>Vision Therapy</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Transcranial magnetic Stimulation</td>
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<td></td>
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<td>Chiropractic</td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
<td>5</td>
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<tr>
<td>Supplements (general dietary)</td>
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<td>Fatty Acids</td>
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<td>10</td>
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<tr>
<td>Magnesium</td>
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<td>Iron</td>
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<td>Carnitine</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td>5</td>
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<tr>
<td>Elimination Diet (general and Feingold)</td>
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<td>14</td>
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<td>Food Flavourings</td>
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</tr>
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<td>Sugar</td>
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<td>2</td>
<td>1</td>
<td></td>
<td>5</td>
</tr>
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<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SSRI/SNRIs</td>
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<td>4</td>
<td>3</td>
<td>10</td>
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<td>Melatonin</td>
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<td>Biofeedback</td>
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<td>Brainwave program</td>
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<td><strong>TOTALS</strong></td>
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<td><strong>91</strong></td>
<td><strong>88</strong></td>
<td><strong>92</strong></td>
<td><strong>325</strong></td>
</tr>
</tbody>
</table>
### Outcomes by Intervention

**Table 6: Number of studies by outcomes assessed for each intervention**

*see notes on Table 6 on following page.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Physiological tests</th>
<th>Psychological tasks</th>
<th>Rating Scales generic</th>
<th>Rating Scales condition Specific</th>
<th>N/S</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herbal</td>
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<td>2</td>
<td>3</td>
<td>1</td>
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</tr>
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<td>Chinese medicines</td>
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<td>2</td>
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<td>3</td>
</tr>
<tr>
<td>Gingko biloba</td>
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Details of outcomes specified in Table 6

Physiological tests
These included blood tests, EEG etc

Psychological tasks
A number of different tasks/tests are often used in the same study.

Some measure specific skills such as reading and counting. The two task measures most commonly occurring in the literature have been itemised separately. These are:

- TOVA = Test of Variable Attention⁶ specific test used in ADHD
- CPT = Continuous Performance Test- specific test used in ADHD

Rating Scales
A large number of different rating scales are used in the studies most frequently assessed by parent or teacher and often by both.

A few studies use investigator rating scales and very few use self rating. The three most commonly occurring rating scales have been listed separately; one is used to assess symptom severity in mental conditions (CGI) and the other two are ADHD specific (ADHD and Conners).

The details of these are:
- CGI= clinical global impression¹⁰
- ADHD Rating Scales - parent and teacher versions⁷
- Conners Rating Scales ⁸ ⁹ the most commonly cited scales in the literature - teacher and parent versions.

In the abstracts of the selected literature, rating scales, whether generic or specifically designed for an ADHD population, typically measure hyperactivity, impulsivity, self-control, delinquent or aggressive behaviour, socialisation and anxiety/ depression.

Other
N/S= not specified; i.e. outcomes are indicated but not the measures used; commonly symptoms, cognition or behaviour improvement. Other outcomes cited include adverse events and quality of life.

As in the previous table the totals exceed the number of included studies since most of the studies which indicated outcome measures indicated several different ones.
Country of studies

It was not possible to make any meaningful overall assessment of the countries where the studies were conducted from the abstracts since most did not supply this information. Some trials may have been multicenter studies across several countries and/or continents (but see table on language). It might be possible to obtain this information from the full text of the studies.
Conclusions

There is a large and increasing body of literature covering the area of complementary therapies in children with ADHD.

However much of the evidence originates from non-randomised clinical trials with small sample sizes which may be subject to bias.

There are some systematic reviews, notably Cochrane Reviews on meditation and homeopathy with two others on acupuncture and fatty acid supplementation in preparation. The latter in particular has generated a large body of literature including several randomised clinical trials.

There is also a sizeable literature on biofeedback. Research into the merits of elimination diets continues. Other areas with a reasonable amount of literature include relaxation and herbal medicines.
References


3. SIGN. Management of Attention Deficit and Hyperkinetic Disorders in Children and Young People: a national clinical guideline. SIGN Edinburgh, 2009

4. Heirs M, Dean ME. Homeopathy for attention deficit/hyperactivity disorder or hyperkinetic disorder. Cochrane database of systematic reviews (Online) 2007;(4):CD005648.


### Appendix 1: Search strategies

#### Population- Medline Ebsco example

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<td>S3</td>
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<td>S4</td>
<td>S2 NOT S3</td>
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<tr>
<td>S5</td>
<td>S1 NOT S4</td>
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#### Interventions

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precursor* or serotonin reuptake inhibitor* or SSRI* or SNRI* or serotonin re-uptake inhibitor* or s-adenosylmethionine or sam-e or St John's wort or St Johns wort or hypericum or ginko or ginkgo or ginseng or panax quinquefolium or valerian* or rodola or rhodiola or bacopa or kava or kawa or arnica or echinacea or lightning N2 therap* or lightning process or relaxation N2 therap* or relaxation N2 train* or auditory N2 integration or sensory N2 integration or life N2 coach* or brainwave N2 program* or sunrise N2 program* or alternative N2 medic* or complementary N2 medic*

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**Exclusions**

| S1 | (MH "Letter") OR (MH "Correspondence as Topic+") OR (MH "Case Reports") OR (MH "Animals, Laboratory") OR (MH "Models, Animal") OR (MH "Animal Experimentation") OR (MH "Rodentia+") |
| S2 | (MH "Animals+") NOT (MH "Humans") |
| S3 | PT historical article or PT letter or PT editorial or PT comment or PT case reports |
| S4 | S1 or S2 or S3 |

**Study types**

| S1 | systematic or evidence* or methodol* or quantitativ* |
| S2 | (MH "Review") or (MH "Review Literature as Topic") or overview* or survey* or review* or PT review |
| S3 | S1 and S2 |
| S4 | (MH "Meta-Analysis") OR (MH "Meta-Analysis as Topic") or PT meta-analysis or meta-analys* or meta analys* or metanalys* or metaanalys* or pool* N2 data or pool* N2 trials or pool* N2 studies or pool* N2 results or combined N2 data or combined N2 trials or combined N2 studies or combined N2 results or combining N2 data |
| S5 | combining N2 trials or combining N2 studies or combining N2 results |
| S6 | S3 or S4 or S5 |
| S7 | clinical N2 trial* or control* N2 trial* or clinical N2 study or control* N2 study or clinical N2 studies or control* N2 studies or single-blind* or double-blind* or triple-blind* or
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Appendix 2:

Contact details for Cochrane Systematic reviews and some ongoing studies and trials in ADHD

- Cochrane Systematic review - Meditation
  Contact address: Thawatchai Krisanaprakornkit, Department of Psychiatry, Faculty of Medicine, KhonKaen University, KhonKaen, 40002, Thailand. drthawatchai@yahoo.com.

- Cochrane Systematic review - Homeopathy
  Contact address: Morag Heirs, Centre for Reviews and Dissemination, University of York, York, YO10 5DD, UK. mkc500@york.ac.uk.

- Cochrane Protocol for Systematic review - Fatty acid supplements
  Contact address: John KH Sinn, Neonatal Unit, Royal North Shore Hospital, Level 5, Douglas Building, Pacific Hwy, St Leonards, New South Wales, 2065, Australia. jsinn@med.usyd.edu.au.

- Cochrane Protocol for Systematic review - Acupuncture
  Contact address: Bo Yu, Department of paediatrics, The Second Affiliated Hospital of Wenzhou Medical College, No 109, Xue-Yuan-Xi-Lu Street, Wenzhou, Zhejiang, 325027, China. dog4317169@hotmail.com.

- Ongoing research on St John’s Wort
  Wendy Weber, N.D., Ph.D., M.P.H. conducted the trial on St John’s Wort in ADHD- she now a program officer at: National Center for Complementary and Alternative Medicine
  E-mail: weberwj@mail.nih.gov

- Recent research into fatty acid supplementation (MAAFA trial)
  Eric Taylor, Dept of Psychiatry, de Crespigny Park, London SE5 8AF
Appendix 3: Identified studies


64. Dudnov-Raz G. Omega-3 supplementation and ADHD: Hadassah medical organisation, 2009.


74. Field TM, Quintino O, Hernandez-Reif M, Koslovsky G. Adolescents with attention deficit hyperactivity disorder benefit from massage therapy. *Adolescence* 1998;33(129):103-08.


119. Huss M. Efficacy and safety of St John's Wort/ Valerian extract v placebo in children and adolescents with ADHD. Johannes Gutenberg University Mainz 2010.


236. Torrijos J. Omega-3 fatty Acids as an adjunctive therapy for treatment in ADHD: Maimonides Health Centre 2010.


246. Vaisman N. PS-omega-3 supplementation to ADHD children: Tel-Aviv Sourasky Medical Center 2009.


