

Best Evidence Summaries of Topics in Mental Healthcare

BEST *in* **MH** *clinical question-answering service*

Question

For adults with learning disabilities and/or Autism, how effective is Naltrexone compared with any other or no intervention in reducing self-injurious behaviour?

Clarification of question using *PICO* structure

Patients: Adults with learning disabilities and/or Autism
Intervention: Naltrexone
Comparator: Any other or no intervention
Outcome: Self-injurious behaviour

Plain language summary

We don't know for sure how effective Naltrexone is in reducing self-harm behaviour in adults with learning disabilities and/or autism, as there is very little high quality or current research out there to give us a clear answer. More rigorous research need to be conducted to give us a better understanding.

Clinical and research implications

Evidence from one systematic review (27 mostly single case studies) suggested that short-term naltrexone treatment could reduce self-injurious behaviour in children and adults with severe and profound cognitive impairment, including autism. Further research should report outcomes for individual participants, use a common set of outcome measures, and explore the relationship between behavioural and biological markers as predictors of response to treatment.

What does the evidence say?

Number of included studies/reviews (number of participants)

One systematic review of 27 studies containing 86 children and adults was included. All had some level of cognitive impairment with most having severe or profound impairment, and 30 had autism. Most studies were of single cases and only four evaluated groups.

Main findings

Overall 80% of participants reported an improvement in self-injurious behaviour during treatment with naltrexone with 27% having an improvement of 50% or more from baseline. Men were more likely to improve than women and the most effective doses were 75 mg and 1 mg/kg for men and 50 mg for women. Significant decreases in self-injurious behaviour were seen for 50 mg and 100 mg naltrexone in one group study.

Authors' conclusion

Overall, 80% of individuals with mostly severe or profound mental retardation had reductions in self-injurious behaviour during short-term naltrexone treatment with 47% having clinically significant reductions of 50% or more.

Reliability of conclusions/Strength of evidence

Given that there was only one systematic review which is eleven years old, and contained mostly single case studies, there is a lack of reliable evidence in this area. The quality of the review was poor, with a limited literature search, lack of detail about the review methods, no quality assessment or details of the individual studies. It was not clear if any of the group studies in the review were randomised controlled trials and some also included children.

What do guidelines say?

No guidelines were available for this question.

Date question received: 21/08/2015

Date searches conducted: 24/08/2015

Date answer completed: 07/09/2015

References

[Symons, F. J., Thompson, A., & Rodriguez, M. C. \(2004\). Self-injurious behavior and the efficacy of naltrexone treatment: A quantitative synthesis. *Mental retardation and developmental disabilities research reviews*, 10\(3\), 193-200.](#)

Results






Systematic reviews

| Author (year) | Search date | Inclusion criteria | Number of included studies | Summary of results | Risk of bias |
|---------------------|--------------|--|----------------------------|--|--|
| Symons et al (2004) | 1983 to 2003 | <p>Participants: Participants with a diagnosis of Mental Retardation.</p> <p>Intervention: Naltrexone hydrochloride (doses ranged from 12.5 mg to 2.0 mg/kg, the most frequently assessed were 50 mg and 1.0 mg/kg).</p> <p>Comparator: Placebos were used as the control in some studies but most studies were single-case designs without a comparator.</p> <p>Outcomes: Self-injurious behaviour</p> <p>Study design: Short-term or acute treatment trial (as defined by the authors but limited to 3 months or less) of any design.</p> | 27 (86 participants) | <p>Twenty-three studies provided single-case results and 4 were group studies (62 participants). Most were performed in residential treatment facilities. 37% of participants were female, 22% were male (the rest were not reported) and the mean age was 27 years (range 7 to 67). Thirty (35%) participants had a diagnosis of autism and 91% had severe or profound cognitive impairment. The most commonly reported self-injurious behaviours were multiple injuries to the head, face and other parts (34%) and multiple injuries to the face (20%).</p> <p>Overall, 80 % of participants reported an improvement during naltrexone treatment with 27% improving by 50% or more. The most effective doses for an improvement of 50% or more were 75 mg and 1 mg/kg for men and 50 mg for women. Men were significantly more likely to improve than women. There was no</p> | <p>High</p> <p>The inclusion criteria were clearly stated.</p> <p>The searches covered only 2 databases and were restricted by English language so it is likely that relevant studies were missed.</p> <p>No information was given about how many reviewers selected the studies, and only 30% of the data</p> |


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| | | | | <p>significant difference in the level of improvement between those with and without autism.</p> <p>Results from the group studies were varied with one finding reduced self-injurious behaviour in four children at doses of 0.5 and 2.0 mg/kg, but two studies found no effect of 1.0 mg/kg of naltrexone. In adults, naltrexone at 50 to 100 mg showed significant improvements in behaviour.</p> | <p>was scored by two reviewers independently.</p> <p>The synthesis grouped outcomes by dose, but no individual study details were provided.</p> |
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Risk of bias

Systematic reviews

| Author (year) | RISK OF BIAS | | | | |
|---------------------|---|---|---|---|---|
| | Inclusion criteria | Searches | Review process | Quality assessment | Synthesis |
| Symons et al (2004) |  |  |  |  |  |

 Low risk

 High risk

 Unclear risk

Search details

| Source | Search Strategy | Number of hits | Relevant evidence identified |
|---------------------------|---|----------------|------------------------------|
| Guidelines | | | |
| NICE | Naltrexone | 11 | 0 |
| SIGN | Naltrexone | 1 | 0 |
| Systematic Reviews | | | |
| MEDLINE | exp Adult/ 5902614 2 exp Learning Disorders/ 19720 3 exp Autistic Disorder/ 17044 4 2 and 3 349 5 2 or 3 36415 6 4 or 5 36415 7 naltrexone.ab,ti. 5766 8 exp Naltrexone/ 7034 9 7 or 8 8630 10 exp Self-Injurious Behavior/ 57046 11 exp Self Mutilation/ 3118 12 deliberate self harm.ab,ti. 925 13 DSH.ab,ti. 802 14 (auto mutilat\$ or automutilat\$ or cutt\$ or head bang\$ or head bang\$ or overdos\$ or (self adj2 cut\$) or self destruct\$ or selfdestruct\$ or self harm\$ or selfharm\$ or self immolat\$ or selfimmolat\$ or self inflict\$ or selfinflict\$ or self injur\$ or selfinjur\$ or selfmutilat\$ or self mutilat\$ or self poison\$ or selfpoison\$ or suicid\$).ti,ab. 107128 15 1 and 6 8031 16 10 or 11 or 12 or 13 or 14 124074 | 0 | 0 |

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|-----------------|--|---|---|
| | 17 9 and 15 and 16 9 18 Llimit 17 to systematic reviews 0 | | |
| EMBASE | 1 adult/ 4889584 2 exp learning disorder/ 27040 3 exp autism/ 41499 4 2 and 3 1477 5 2 or 3 67062 6 4 or 5 67062 7 1 and 6 12786 8 exp naltrexone/ 11555 9 naltrexone.ti,ab. 6748 10 8 or 9 12230 11 exp automutilation/ 11533 12 deliberate self harm.ti,ab. 1238 13 DSH.ti,ab. 968 14 (auto mutilat\$ or automutilat\$ or cutt\$ or head bang\$ or head bang\$ or overdos\$ or (self adj2 cut\$) or self destruct\$ or selfdestruct\$ or self harm\$ or selfharm\$ or self immolat\$ or selfimmolat\$ or self inflict\$ or selfinflict\$ or self injur\$ or selfinjur\$ or selfmutilat\$ or self mutilat\$ or self poison\$ or selfpoison\$ or suicid\$).ti,ab. 128506 15 11 or 12 or 13 or 14 132970 16 7 and 10 and 15 14 17 limit 16 to "systematic review" 4 | 4 | 0 |
| PsycINFO/CINAHL | 1 exp Learning Disabilities/ or exp Learning Disorders/ 21856 2 exp Autism/ 20842 3 1 and 2 357 4 1 or 2 42341 5 3 or 4 42341 6 exp Naltrexone/ 1620 | 0 | 0 |

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| | <p>7 naltrexone.ab,ti. 2555 8 6 or 7 2605 9 exp Self Injurious Behavior/ 3368 10 exp Self Destructive Behavior/ 28664 11 exp Self Mutilation/ 773 12 deliberate self harm.ab,ti. 890 13 DSH.ab,ti. 318 14 (auto mutilat\$ or automutilat\$ or cutt\$ or head bang\$ or head bang\$ or overdos\$ or (self adj2 cut\$) or self destruct\$ or selfdestruct\$ or self harm\$ or selfharm\$ or self immolat\$ or selfimmolat\$ or self inflict\$ or selfinflict\$ or self injur\$ or selfinjur\$ or selfmutilat\$ or self mutilat\$ or self poison\$ or selfpoison\$ or suicid\$).ti,ab. 54174 15 9 or 10 or 11 or 12 or 13 or 14 55229 16 5 and 8 and 15 34 17 limit 16 to "0830 systematic review" 0</p> | | |
| Primary Studies | | | |
| MEDLINE | <p>exp Adult/ 5902614 2 exp Learning Disorders/ 19720 3 exp Autistic Disorder/ 17044 4 2 and 3 349 5 2 or 3 36415 6 4 or 5 36415 7 naltrexone.ab,ti. 5766 8 exp Naltrexone/ 7034 9 7 or 8 8630 10 exp Self-Injurious Behavior/ 57046 11 exp Self Mutilation/ 3118 12 deliberate self harm.ab,ti. 925 13 DSH.ab,ti. 802</p> | 9 | 0 |

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| | <p>14 (auto mutilat\$ or automutilat\$ or cutt\$ or head bang\$ or head bang\$ or overdos\$ or (self adj2 cut\$) or self destruct\$ or selfdestruct\$ or self harm\$ or selfharm\$ or self immolat\$ or selfimmolat\$ or self inflict\$ or selfinflict\$ or self injur\$ or selfinjur\$ or selfmutilat\$ or self mutilat\$ or self poison\$ or selfpoison\$ or suicid\$).ti,ab. 107128</p> <p>15 1 and 6 8031</p> <p>16 10 or 11 or 12 or 13 or 14 124074</p> <p>17 9 and 15 and 16 9</p> | | |
| EMBASE | <p>1 adult/ 4889584</p> <p>2 exp learning disorder/ 27040</p> <p>3 exp autism/ 41499</p> <p>4 2 and 3 1477</p> <p>5 2 or 3 67062</p> <p>6 4 or 5 67062</p> <p>7 1 and 6 12786</p> <p>8 exp naltrexone/ 11555</p> <p>9 naltrexone.ti,ab. 6748</p> <p>10 8 or 9 12230</p> <p>11 exp automutilation/ 11533</p> <p>12 deliberate self harm.ti,ab. 1238</p> <p>13 DSH.ti,ab. 968</p> <p>14 (auto mutilat\$ or automutilat\$ or cutt\$ or head bang\$ or head bang\$ or overdos\$ or (self adj2 cut\$) or self destruct\$ or selfdestruct\$ or self harm\$ or selfharm\$ or self immolat\$ or selfimmolat\$ or self inflict\$ or selfinflict\$ or self injur\$ or selfinjur\$ or selfmutilat\$ or self mutilat\$ or self poison\$ or selfpoison\$ or suicid\$).ti,ab. 128506</p> <p>15 11 or 12 or 13 or 14 132970</p> <p>16 7 and 10 and 15 14</p> | 14 | 1 |
| PsycINFO/CINAHL | <p>1 exp Learning Disabilities/ or exp Learning Disorders/ 21856</p> <p>2 exp Autism/ 20842</p> | 34 | 0 |

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| | <p>3 1 and 2 357 4 1 or 2 42341 5 3 or 4 42341 6 exp Naltrexone/ 1620 7 naltrexone.ab,ti. 2555 8 6 or 7 2605 9 exp Self Injurious Behavior/ 3368 10 exp Self Destructive Behavior/ 28664 11 exp Self Mutilation/ 773 12 deliberate self harm.ab,ti. 890 13 DSH.ab,ti. 318 14 (auto mutilat\$ or automutilat\$ or cutt\$ or head bang\$ or head bang\$ or overdos\$ or (self adj2 cut\$) or self destruct\$ or selfdestruct\$ or self harm\$ or selfharm\$ or self immolat\$ or selfimmolat\$ or self inflict\$ or selfinflict\$ or self injur\$ or selfinjur\$ or selfmutilat\$ or self mutilat\$ or self poison\$ or selfpoison\$ or suicid\$).ti,ab. 54174 15 9 or 10 or 11 or 12 or 13 or 14 55229 16 5 and 8 and 15 34</p> | | |
| CENTRAL | <p>#1 MeSH descriptor: [Learning Disorders] explode all trees 462 #2 MeSH descriptor: [Autistic Disorder] explode all trees 543 #3 #1 and #2 5 #4 #1 or #2 1000 #5 #3 or #4 1000 #6 MeSH descriptor: [Naltrexone] explode all trees 734 #7 naltrexone 1468 #8 #6 or #7 1468 #9 MeSH descriptor: [Self-Injurious Behavior] explode all trees 768 #10 "DELIBERATE SELF HARM" 108 #11 DSH 36</p> | 5 | 0 |

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| | <p>#12 auto mutilat\$ or automutilat\$ or cutt\$ or head bang\$ or head bang\$ or overdos\$ or (self adj2 cut\$) or self destruct\$ or selfdestruct\$ or self harm\$ or selfharm\$ or self immolat\$ or selfimmolat\$ or self inflict\$ or selfinflict\$ or self injur\$ or selfinjur\$ or selfmutilat\$ or self mutilat\$ or self poison\$ or selfpoison\$ or suicid\$ 1847</p> <p>#13 #9 or #10 or #11 or #12 2509</p> <p>#14 #5 and #8 and #13 6</p> | | |
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