

Management of attention disorders

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Description of condition and intervention

Attention deficit hyperactivity disorder (ADHD) is characterised by symptoms of hyperactivity, impulsive episodes with or without inattention, that occur in more than one setting. This disorder affects the academic, social, and emotional well-being of the individual. Depending upon the age of the child, behaviour therapy, pharmacotherapy or both can be given. Source: UpToDate accessed on August 24,2021.

We assess the effect and cost for psychosocial support and centrally acting stimulant (CAS) medication intervention being analysed in FairChoices: DCP Analytical tool in this evidence brief.

Psychosocial support and centrally acting stimulant (CAS) medication

International guidelines

| Organization | Indications/recommendations | Applicability in LIC & Lower MIC settings |
|---------------------------|---|---|
| World Health Organization | mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings: mental health Gap Action Programme (mhGAP) | Yes |

Source: WHO 2016

Intervention attributes

Type of interventions

Curative

Delivery platform

This intervention may be delivered as part of routine care services predominantly at health centre level.

Equity

In addition to considerations like cost-effectiveness and health systems factors, dimensions of equity can be relevant for priority setting. The opportunity for a long and healthy life varies according to the severity of a health condition that individuals might have, so there are inequities in individuals' opportunities for long and healthy lives based on the health conditions they face. Metrics used to estimate the severity of illness at an individual level can be used to help prioritize those with less opportunity for lifetime health. FairChoices: DCP Analytics Tool uses Health adjusted age of death (HAAD), which is a metric that estimates the number of years lived from birth to death, discounting years lived with disability. A high HAAD thus represents a disease less severe in terms of lifetime health loss, while a low HAAD represents a disease that is severe on average, causing early death or a long period of severe disability. It is also possible to estimate the distribution of HAAD across individuals with a health condition. FairChoices shows for each intervention an average HAAD value of the conditions that are affected by respective interventions that have health effects. Additionally, a plot shows HAAD values for around 290 conditions (Johansson KA et al 2020).

Time dependence

Moderate level of urgency. Treatment outcomes not highly affected by some days of delay.

Population in need of interventions

| Intervention taxonomy | Treated population & treated fraction | Affected population & affected fraction | Epidemiological Indicator |
|-----------------------|--|--|------------------------------|
|-----------------------|--|--|------------------------------|

| | | | |
|---|---------------|---------------|--|
| Psychosocial support and CAS medication | 0 to 17 years | 0 to 17 years | Prevalence of attention-deficit disorder |
|---|---------------|---------------|--|

Disease state addressed

These interventions target attention-deficit/hyperactivity disorder.

Intervention effect and safety

Table 1: Effect and safety of the interventions

| Effect of intervention | | Certainty of evidence |
|------------------------|-----------------------------------|-----------------------|
| Disability | 0.3 reduction (Catalá-López 2017) | See appendix |

Model assumptions

Table 2: Summary of model parameters and values used in FairChoices – DCP Analytical Tool

| Category | Model parameter | Notes |
|--------------------------|---|-------------------------------------|
| Intervention | Psychological treatment And CAS medication | |
| Cost parameters | | |
| Treated population | Based on prevalence of attention-deficit/hyperactivity disorder | Global Burden of Disease study 2019 |
| Gender | Both male & female | |
| Age | 0 to 17 years | |
| Treated fraction | 1 | |
| Effect parameters | | |
| Affected population | Those with condition | |
| Affected gender | Both male & female | |
| Affected fraction age | 0 to 17 years | |

| | | |
|--|--|-------------------|
| Affected fraction for disability reduction | 1 | |
| Comparison | No intervention | |
| Disability Reduction (RRR) Psychological treatment and CAS medication | 0.3 | Catalá-López 2017 |
| Possible non health benefits, but not modelled | Improvement in educational attainment Reduction in rates of life criminal behaviour | |

Intervention cost

The unit cost per person for managing attention deficit hyperactivity disorder (ADHD) is estimated to be \$1066 per year in Israel in 2017 USD (Ornoy, A., Spivak, A., 2019). The unit cost was calculated as the sum for the medication cost (\$83/month x12 months) and one provider visit per year (\$ 70/year).

References

Johansson KA et al 2020: Johansson KA, Coates MM, Økland JM, Tsuchiya A, Bukhman G, Norheim OF, Haaland Ø. Health by disease categories. Distributional Cost-Effectiveness Analysis: Quantifying Health Equity Impacts and Trade-Offs. 2020 Sep 30:105.

Catalá-López 2017: Catalá-López F, Hutton B, Núñez-Beltrán A, Page MJ, Ridao M, Macías Saint-Gerons D, Catalá MA, Tabarés-Seisdedos R, Moher D. The pharmacological and non-pharmacological treatment of attention deficit hyperactivity disorder in children and adolescents: a systematic review with network meta-analyses of randomised trials. PloS one. 2017 Jul 12;12(7):e0180355.

Ornoy A, Spivak A. 2019: Ornoy A, Spivak A. Cost effectiveness of optimal treatment of ADHD in Israel: a suggestion for national policy. Health Econ Rev. 2019 Jul 9;9(1):24. doi: 10.1186/s13561-019-0240-z. PMID: 31289954; PMCID: PMC6734254.

Appendix

Literature Review for effectiveness & safety

This literature search is an example of Level 1 search for intervention inputs taken from DCP3 or generated in an ad hoc manner (e.g., quick google search found one study of cervical cancer screening cost-effectiveness that was used to create an effectiveness parameter for that intervention).

Level of evidence of efficacy studies:

1. low (expert opinions, case series, reports, low-quality case control studies)
2. moderate (high quality case control studies, low quality cohort studies)
3. high (high quality cohort studies, individual RCTs)
4. very high (multiple RCTs, meta-analysis, systematic review, clinical practice guidelines)