

Treating tobacco dependence – pharmacotherapy

Key citations:

1. *Hartmann-Boyce J, et al. Nicotine replacement therapy versus control for smoking cessation. Cochrane Database Syst Rev 2018;5:CD000146.*
2. *Cahill K, et al. Pharmacological interventions for smoking cessation: an overview and network meta-analysis. Cochrane Database Syst Rev 2013;2013:CD009329.*
3. *Oluwole Akanbi M, et al. The efficacy of smoking cessation interventions in low- and middle-income countries: a systematic review and meta-analysis. Addiction 2019;114:620-35.*
4. *Myung SK, Park JY. Efficacy of pharmacotherapy for smoking cessation in adolescent smokers: A meta-analysis of randomized controlled trials. Nicotine Tob Res 2019;21:1473-9.*
5. *Gray KM, et al. High-dose and low-dose varenicline for smoking cessation in adolescents: a randomized, placebo-controlled trial. Lancet Child Adolesc Health 2020;4:837-45.*
6. *Stead LF, et al. Combined pharmacotherapy and behavioural interventions for smoking cessation. Cochrane Database Syst Rev 2016;3:CD008286.*
7. *Benipal S, et al. Essential tobacco dependence medicines in 137 countries. Addiction 2020;116:1606-9.*
8. *Piggott T, et al. Global status of essential medicine selection: a systematic comparison of national essential medicine lists with recommendations by WHO. BMJ Open 2022;12:e053349.*

Title of evidence summary

Treating tobacco dependence – pharmacotherapy

Who is this summary for?

Health managers, researchers, practitioners in each country.

Focus

Effectiveness of pharmacotherapy to assist adolescents to quit smoking

Key findings/recommendations

Pharmacotherapy (nicotine replacement therapy [NRT], bupropion and varenicline) are effective for interventions to support smoking cessation.^{1,2} NRT has been shown to be an effective intervention in LMIC settings.³ A meta-analysis of nine randomized controlled trials (RCTs) showed an increased abstinence rate among adolescent smokers (aged 12-20 years) for pharmacotherapy vs controls (all studies conducted in HIC).⁴ Data for varenicline in adolescents is less robust.⁵ Pharmacotherapy may be more effective when used in conjunction with behavioural interventions, at least among adult smokers.⁶

Implementation considerations

Highly context dependent as not all pharmacotherapies for the treatment of tobacco dependence are available in all countries. Although NRS, bupropion and varenicline are included on the WHO list of essential medicines, they do not appear on the essential medicines lists of most countries.^{7,8}

Quality of the evidence

High – meta-analysis of RCTs among adolescent smokers.

Citation for any linked full evidence review

1. Hartmann-Boyce J, et al. Nicotine replacement therapy versus control for smoking cessation. *Cochrane Database Syst Rev* 2018;5:CD000146.
2. Cahill K, et al. Pharmacological interventions for smoking cessation: an overview and network meta-analysis. *Cochrane Database Syst Rev* 2013;2013:CD009329.
3. Oluwole Akanbi M, et al. The efficacy of smoking cessation interventions in low- and middle-income countries: a systematic review and meta-analysis. *Addiction* 2019;114:620-35.
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5. Gray KM, et al. High-dose and low-dose varenicline for smoking cessation in adolescents: a randomized, placebo-controlled trial. *Lancet Child Adolesc Health* 2020;4:837-45.
6. Stead LF, et al. Combined pharmacotherapy and behavioural interventions for smoking cessation. *Cochrane Database Syst Rev* 2016;3:CD008286.
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Funding [no single review]

Languages (can use ISO codes) [most papers only in English]

Other sources of information

- WHO list of Essential Medicines for disorders due to psychoactive substances (including nicotine dependence): <https://list.essentialmeds.org/?section=454&indication=&year=&age=&sex=>
- IPCRG. Treating tobacco dependence: guidance for primary care on life-saving interventions. Position statement of the IPCRG giving Numbers Needed to Treat doi: [10.1038/s41533-017-0039-5](https://doi.org/10.1038/s41533-017-0039-5)
- IPCRG desktop helper – practical guide to helping smokers quit. <https://www.ipcr.org/desktophelpers/desktop-helper-no-4-helping-patients-quit-tobacco-3rd-edition>.