



HOCHSCHULE
RAVENSBURG-WEINGARTEN
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MEDIKAMENTÖSE MIGRÄNEPROPHYLAXE IN FORM VON BETABLOCKERN

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Evidence based Practice

6.Semester Gesundheitsökonomie

INHALTSVERZEICHNIS

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- **Therapie:**
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Migräne - Definition und Therapie

Migräne:

- Neurologische Erkrankung
- Kopfschmerzen ausgelöst durch Trigger
 - + vegetative Symptome
 - + fokalneurologischen Symptomen (Aura)

Therapie:

- Medikamentöse Prophylaxe: Betablocker - Propranolol
- Zeitraum: Über mindestens 3 Monate, 1x am Tag
- Dokumentation mit Kopfschmerzkalender
- Nebeneffekt: Müdigkeit, Gewichtszunahme und seltener Schlafstörungen (Alpträume, fraktionierter Schlaf)
- Erfolg: Senkung der Attackenfrequenz um mindestens 50%, verringerten Intensität der Attacken¹

¹Vgl. Diener, H.; (2025), o.S.

PICO-Frage

Kann die medikamentöse Migräneprophylaxe; Migräneattacken verringern und zu einer Steigerung der Lebensqualität führen?

P: Population	Patienten mit häufigen und schweren Migräneattacken
I: Intervention	Medikamentöse Migräneprophylaxe mit dem Betablocker Propranolol
C: Kontrollmaßnahmen	Placebo, Vergleich mit anderen Betablockern (Metoprolol, Flunarizin)
O: Outcome	• Reduzierung von Häufigkeit, Schwere und Dauer der Migräneattacken • Prophylaxe des Kopfschmerzes bei Übergebrauch von Schmerz und Migränemitteln
Setting	

Selektionskriterien

Inklusion:

- Erwachsene
- Betablocker: Propranolol
- Sprache: Deutsch und Englisch
- Starke Beeinträchtigung der Lebensqualität
- Risiko eines Medikamentenübergebrauchs
- Migräneattacken, die auf eine Akuttherapie nicht ansprechen
- Migräneattacken mit einschränkenden Aurasymptomen
- Mindestens 4 Migränetage pro Monat
- Schwer behandelbare Migräneattacken

Exklusion:

- Kinder
- Patienten mit: arterielle Hypotonie, Bradykardie, Asthma bronchiale, Herzinsuffizienz,
- nicht medikamentösen Migräneprophylaxe wie Biofeedback

Filter:

- Mindestens 3 Monate²

Wortliste

P: Population	Migräne, Erwachsene Aura, häufige Migräneattacken, Beeinträchtigung Lebensqualität, Medikamentenübergebrauch
I: Intervention	Migräneprophylaxe, Betablocker, Propranolol, Metoprolol, nicht medikamentöse Prophylaxe,
C: Kontrollmaßnahmen	Placebo, andere Betablocker, Migräneprophylaxe
O: Outcome	Attackenfrequenz, Lebensqualität, Intensität

Durchsuchte Datenbanken



Plos One: Betablockers Migraine, 2.096
Ergebnisse³



Crochane Library: migraine prophylaxis, 12
reviews, 1757 trials⁴

³Vgl. Plos One; (2025); o.S.; ⁴Vgl. Cochrane Library; (2025)

Aktualität:

- Eingereicht: 2018
- Veröffentlicht: 2019
- Aktuellste Version

Relevanz:

- Randomisierte kontrollierte Studien
- Erwachsene
- Nutzung von Beta-blockern
- Patientenberichtete Ergebnisse
- Ergebnis: Kopfschmerzhäufigkeit
- Duplikate raus

Genauigkeit:

- **Ergebnisse aus:** Cochrane Register of Controlled Trials; MEDLINE; EMBASE; ISI Web of Science, clinical trial registries, CNKI, Wanfang and CQVIP
- **Umfasst:**
 - 108 randomized controlled trials,
 - 50 placebo-controlled
 - 58 comparative effectiveness trials
- **Durchgeführt nach:**
 - PRISMA-Richtlinien
 - Registriert: Prospero
 - Qualität: GRADE-Modell
 - Cochrane risk of bias instrument

Ziel:

- **Ziel:** Wirksamkeit von Betablockern bei der Vorbeugung von Migräne und Spannungskopfschmerzen zu beurteilen.
- Beruht auf mehreren Studien und scheint objektiv
- Soll informieren
- **Competing interests:** Bestehen keine
- **Funding:** Keine spezifische Finanzierung für die Arbeit

Verfügbarkeit:

- Open access article
- Englisch

Autorität:

- 8 Autoren,
- Department of Medicine, Biology, Epidemiologie, Endokrinologie in KH oder an Universitäten in Amerika und Japan
- Kontaktinfos sind angegeben⁴

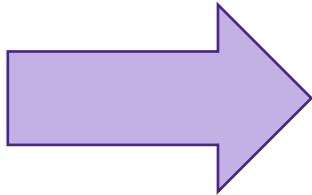
⁴Vgl. Hayashino, Y.; Jackson, J.; Jackson, W.; (2019)

Ausgesuchte Studie und AMSTAR-Methode

RESEARCH ARTICLE

Beta-blockers for the prevention of headache in adults, a systematic review and meta-analysis

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Ergebnis:

- 15/16 Fragen
- Hohe methodische Qualität⁵

⁵Vgl. Amstar; (2025), o.S.

Stärken und Schwächen

Stärken 	Schwächen 
Umfassende Literaturrecherche	Keine Liste von den ausgeschlossenen Studien mit Begründung
Bias-Bewertung	Teilweise veraltete Primärstudien (1980 / 1990)
Hohe methodische Qualität	Nicht alle Betablocker gleich untersucht

Fazit

- Propanolol ist am wirksamsten:
 - Reduziert Kopfschmerzen von 5 auf 3 pro Monat
 - Verringert die Anzahl der Schmerzmitteldosen
 - Verringert Schwere und Dauer der Kopfschmerzen
- Metoprolol zeigt ähnliche Wirkung wie Propanolol
- Geringere Datenlage und Ergebnisse zu anderen Betablockern⁶
- Hohe methodische Qualität

⁶Vgl. Hayashino, Y.; Jackson, J.; Jackson, W.; (2019)

Literaturverzeichnis

- Cochrane Deutschland, Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften - Institut für Medizinisches Wissensmanagement; (2017) „Bewertung von systematischen Übersichtsarbeiten: ein Manual für die Leitlinienerstellung“. 1. Auflage 2017.; Hrsg.: Cochrane Deutschland & AWMF; S.15f.; letzter Zugriff: 24.05.2025; von: <https://www.cochrane.de/review-bewertung-manual>
- Amstar; (2025); „Amstar Chechlist“; Amstar; letzter Zugriff: 24.05.2025; Von: https://amstar.ca/Amstar_Checklist.php
- Cochrane Library; (2025); „Migraine prophylaxis“; Cochrane Library; Von: <https://www.cochranelibrary.com/search>
- Deutsche Migräne und Kopfschmerzengesellschaft e.V.; (2025); „Diagnostik, Akuttherapie und Prophylaxe der Migräne“; Deutsche Migräne und Kopfschmerzengesellschaft e.V.; letzter Zugriff: 24.05.2025; Von: <https://www.dmkg.de/patienten/medikamente/medikamente-gegen-migraene>
- Diener, H.; (2025); „Prophylaxe bzw. Vorbeugung vom Migräne“; Neurologen und Psychiater im Netz; Hrsg.: Berufsverbänden für Psychiatrie, Kinder- und Jugendpsychiatrie, Psychotherapie, Psychosomatik, Nervenheilkunde und Neurologie aus Deutschland; letzter Zugriff: 24.05.2025; Von: <https://www.neurologen-und-psychiater-im-netz.org/neurologie/erkrankungen/migraene/migraene-prophylaxe/>
- Hayashino, Y.; Jackson, J.; Jackson, W.; (2019); „Beta-blockers for the prevention of headache in adults, a systematic review and meta- analysis“; Hrsg.: Plos One; Letzter Zugriff: 24.05.2025; Von: <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0212785&type=printable>
- Universität Augsburg; (o.J.); „Kriterien zur Bewertung von Informationsquellen“; Universität Augsburg – Universitätsbibliothek; letzter Zugriff: 24.05.2025; Von: https://infokompetenz.bibliothek.uni-augsburg.de/Medizin/kriterien_zur_bewertung_von_informationsquellen.html

AMSTAR – Bewertungs – Tool

1. Did the research questions and inclusion criteria for the review include the components of PICO?		
For Yes:	Optional (recommended)	
☐ Population	☐ Timeframe for follow-up	☐ Yes
☐ Intervention		☐ No
☐ Comparator group		
☐ Outcome		
2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?		
For Partial Yes: The authors state that they had a written protocol or guide that included ALL the following:	For Yes: As for partial yes, plus the protocol should be registered and should also have specified:	
☐ review question(s)	☐ a meta-analysis/synthesis plan, if appropriate, <i>and</i>	☐ Yes
☐ a search strategy	☐ a plan for investigating causes of heterogeneity	☐ Partial Yes
☐ inclusion/exclusion criteria	☐ justification for any deviations from the protocol	☐ No
☐ a risk of bias assessment		
3. Did the review authors explain their selection of the study designs for inclusion in the review?		
For Yes, the review should satisfy ONE of the following:		
☐ <i>Explanation for</i> including only RCTs		☐ Yes
☐ OR <i>Explanation for</i> including only NRSI		☐ No
☐ OR <i>Explanation for</i> including both RCTs and NRSI		
4. Did the review authors use a comprehensive literature search strategy?		
For Partial Yes (all the following):	For Yes, should also have (all the following):	
☐ searched at least 2 databases (relevant to research question)	☐ searched the reference lists / bibliographies of included studies	☐ Yes
☐ provided key word and/or search strategy	☐ searched trial/study registries	☐ Partial Yes
☐ justified publication restrictions (e.g. language)	☐ included/consulted content experts in the field	☐ No
	☐ where relevant, searched for grey literature	
	☐ conducted search within 24 months of completion of the review	
5. Did the review authors perform study selection in duplicate?		
For Yes, either ONE of the following:		
☐ at least two reviewers independently agreed on selection of eligible studies and achieved consensus on which studies to include		☐ Yes
☐ OR two reviewers selected a sample of eligible studies and achieved good agreement (at least 80 percent), with the remainder selected by one reviewer.		☐ No

randomised studies of healthcare interventions, or both

6. Did the review authors perform data extraction in duplicate?		
For Yes, either ONE of the following:		
☐ at least two reviewers achieved consensus on which data to extract from included studies		☐ Yes
☐ OR two reviewers extracted data from a sample of eligible studies and achieved good agreement (at least 80 percent), with the remainder extracted by one reviewer.		☐ No
7. Did the review authors provide a list of excluded studies and justify the exclusions?		
For Partial Yes:	For Yes, must also have:	
☐ provided a list of all potentially relevant studies that were read in full-text form but excluded from the review	☐ Justified the exclusion from the review of each potentially relevant study	☐ Yes
		☐ Partial Yes
		☐ No
8. Did the review authors describe the included studies in adequate detail?		
For Partial Yes (ALL the following):	For Yes, should also have ALL the following:	
☐ described populations	☐ described population in detail	☐ Yes
☐ described interventions	☐ described intervention in detail (including doses where relevant)	☐ Partial Yes
☐ described comparators	☐ described comparator in detail (including doses where relevant)	☐ No
☐ described outcomes	☐ described study's setting	
☐ described research designs	☐ timeframe for follow-up	
9. Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?		
RCTs For Partial Yes, must have assessed RoB from:		
☐ unconcealed allocation, <i>and</i>	☐ allocation sequence that was not truly random, <i>and</i>	☐ Yes
☐ lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all-cause mortality)	☐ selection of the reported result from among multiple measurements or analyses of a specified outcome	☐ Partial Yes
		☐ No
		☐ Includes only NRSI
NRSI For Partial Yes, must have assessed RoB:		
☐ from confounding, <i>and</i>	☐ methods used to ascertain exposures and outcomes, <i>and</i>	☐ Yes
☐ from selection bias	☐ selection of the reported result from among multiple measurements or analyses of a specified outcome	☐ Partial Yes
		☐ No
		☐ Includes only RCTs
10. Did the review authors report on the sources of funding for the studies included in the review?		
For Yes		
☐ Must have reported on the sources of funding for individual studies included in the review. Note: Reporting that the reviewers looked for this information but it was not reported by study authors also qualifies		☐ Yes
		☐ No

AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both

11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?		
RCTs For Yes:		
☐ The authors justified combining the data in a meta-analysis		☐ Yes
☐ AND they used an appropriate weighted technique to combine study results and adjusted for heterogeneity if present.		☐ No
☐ AND investigated the causes of any heterogeneity		☐ No meta-analysis conducted
For NRSI For Yes:		
☐ The authors justified combining the data in a meta-analysis		☐ Yes
☐ AND they used an appropriate weighted technique to combine study results, adjusting for heterogeneity if present		☐ No
☐ AND they statistically combined effect estimates from RCTs that were adjusted for confounding, rather than combining raw data, or justified combining raw data when adjusted effect estimates were not available		☐ No meta-analysis conducted
☐ AND they reported separate summary estimates for RCTs and NRSI separately when both were included in the review		
12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?		
For Yes:		
☐ included only low risk of bias RCTs		☐ Yes
☐ OR, if the pooled estimate was based on RCTs and/or NRSI at variable RoB, the authors performed analyses to investigate possible impact of RoB on summary estimates of effect.		☐ No
		☐ No meta-analysis conducted
13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review?		
For Yes:		
☐ included only low risk of bias RCTs		☐ Yes
☐ OR, if RCTs with moderate or high RoB, or NRSI were included the review provided a discussion of the likely impact of RoB on the results		☐ No
14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?		
For Yes:		
☐ There was no significant heterogeneity in the results		
☐ OR if heterogeneity was present the authors performed an investigation of sources of any heterogeneity in the results and discussed the impact of this on the results of the review		☐ Yes
		☐ No
15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?		
For Yes:		
☐ performed graphical or statistical tests for publication bias and discussed the likelihood and magnitude of impact of publication bias		☐ Yes
		☐ No
		☐ No meta-analysis conducted