Writing a Cochrane abstract in the focused review format

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Outline

- Why it's important to write a good abstract

- What your abstract should be

- Abstract reporting standards

- Focussed review format

- Headings

- Style tips

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Why is it important to write a good abstract?

- Freely available on the internet

- Published in bibliographic databases that index the *Cochrane Database of Systematic Reviews* (e.g. MEDLINE, Embase).

- May be only source to view review results

- Inform healthcare decision makers

> **Important to be read as a stand-alone document**

What your abstract should be

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Accurate: supported by results

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Complete: question, methods, results, limitations

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Short: ideally <700 words

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Achieving this is not easy!

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PRISMA abstract standards

Preferred **R**eporting **I**tems for **S**ystematic reviews and **M**eta-**A**nalyses

Cochrane endorsed PRISMA in 2023 to coincide with change to review format

Available from **https://www.prisma-statement.org/**

Focussed review format

- Simplified reporting

- Headings updated

- https://community.cochrane.org/news/cochranes-focused-review-format-now-available

Previous headings

- Background

- Objectives

- Search methods

- Selection criteria

- Data collection & analysis

- Author's conclusions

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Updated headings

- *Rationale*
- Objectives
- Search methods
- *Eligibility criteria*
- **Outcomes**
- **Risk of bias**

- *Synthesis methods*
- **Included studies**
- Synthesis of results
- Author's conclusions
- **Funding**
- **Registration**

Anti-vascular endothelial growth factor biosimilars for neovascular age-related macular degeneration

Tomiko Sunaga, Masayuki Maeda, Rosella Saulle, Sueko M Ng, Miki Takenaka Sato, Takeshi Hasegawa, Andrew N Mason, Hisashi Noma, Erika Ota

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Rationale

Concise summary:

- Evidence base

- What is unknown or uncertain

- Why it is important to do this review

- 2-3 sentences

Rationale: example

Neovascular age-related macular degeneration (AMD) is a progressive eye disease characterized by choroidal neovascularization (CNV) and is a leading cause of vision loss and disability worldwide. Although intravitreal anti-vascular endothelial growth factor (anti-VEGF) therapy is an effective treatment option that helps to prevent vision loss or to improve visual acuity in people with neovascular AMD, treatment imposes a significant financial burden on patients and healthcare systems. A biosimilar is a biological product that has been developed to be nearly identical to a previously approved biological product. The use of biosimilars may help reduce costs and so may increase patient access to effective biologic medicines with similar levels of safety to the drugs on which they are based.

Rationale: example

Neovascular age-related macular degeneration (AMD) is a **progressive eye disease** characterized by choroidal neovascularization (CNV) and is a **leading cause of vision loss and disability worldwide**. Although intravitreal anti-vascular endothelial growth factor (anti-VEGF) therapy is an **effective treatment option that helps to prevent vision loss** or to improve visual acuity in people with neovascular AMD, **treatment imposes a significant financial burden on patients and healthcare systems**. A biosimilar is a **biological product that has been developed** to be nearly identical to a previously approved biological product. The use of biosimilars **may help reduce costs** and so may increase patient access to effective biologic medicines with **similar levels of safety** to the drugs on which they are based.

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Objectives

- Population(s)

- Health condition(s)

- Intervention(s)

- Comparison(s)

Objective should be identical to objective in main review

Objectives: example

To assess the benefits and harms of anti-VEGF biosimilar agents compared with their corresponding anti-VEGF agents (i.e. the reference products) that have obtained regulatory approval for intravitreal injections in people with neovascular AMD.

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Objectives: example

To assess the **benefits and harms** of **anti-VEGF biosimilar agents** compared with their corresponding anti-VEGF agents (i.e. **the reference products)** that have obtained regulatory approval for intravitreal injections in **people with neovascular AMD**.

Search methods

- Information sources (e.g. databases, registers)

- Most recent search date

We searched **CENTRAL, MEDLINE, Embase, two other databases, and two trials registries** together with **reference checking** and **contact with study authors** to identify studies that are included in the review. The latest search date was **2 June 2023**.

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Eligibility criteria

Inclusion criteria and exclusion criteria:

- Study types

- Participants

- Intervention(s)

- Comparison(s)

Eligibility criteria: example

We included randomized controlled trials (RCTs) that compared approved anti-VEGF biosimilars with their reference products for treating the eyes of adult participants (≥ 50 years) who had an active primary or recurrent choroidal neovascularization lesion secondary to neovascular AMD.

Eligibility criteria: example

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Outcomes

- State the outcomes in your **summary of findings table** only

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Outcomes: example

Our outcomes were:

- best-corrected visual acuity (BCVA)
- central subfield thickness (CST)
- vision-related quality of life
- serious ocular and non-ocular adverse events (AE)
- treatment-emergent adverse events (TEAEs)
- anti-drug antibodies (ADAs)
- serum concentrations of biosimilars and reference drugs.

Risk of bias

- Tools used (RoB 1, RoB 2, ROBINS-I, etc)

- Outcomes assessed

- Different tools for different study designs

We assessed the risk of bias (RoB) for **seven outcomes** reported in a **summary of findings table** by using the **Cochrane RoB 2 tool.**

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Synthesis methods

- Statistical and analysis models
  - effect measures (e.g. RR or OR)
  - fixed or randoms effect model

- Synthesis without meta-analysis (SWIM)

- GRADE

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Synthesis methods: example

We synthesized results for each outcome using meta-analysis, where possible, by calculating risk ratios (RR) and mean differences (MD) with 95% confidence intervals (CI) for dichotomous outcomes and continuous outcomes, respectively. Where this was not possible due to the nature of the data, we summarized the results narratively. We used GRADE to assess the certainty of evidence for prespecified outcomes

Synthesis methods: example

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Included studies

CONTEXTUALISE YOUR FINDINGS:

- Total N studies, N participants

- Relevant co-variates that impact applicability

- Consistent with setting and participants in SOF table

Included studies: example

We included nine parallel-group multi-center RCTs that enrolled a total of 3814 participants (3814 participating eyes), with sample sizes that ranged from 160 to 705 participants per study. The mean age of the participants in these studies ranged from 67 to 76 years, and the proportion of women ranged from 26.5% to 58.7%. Ranibizumab (Lucentis) was the reference product in seven studies, and aflibercept (Eyelea) was the reference product in two others. All the included studies had been supported by industry. The follow-up periods ranged from 12 to 52 weeks (median 48 weeks). Five studies (56%) were conducted in multi-country settings across Europe, North America and Asia, two studies in India, and one each in Japan and the Republic of Korea. We judged all the included studies to have met high methodological standards.

Included studies: example

We included **nine parallel-group multi-center RCTs** that enrolled a total of **3814 participants** (3814 participating eyes), with sample sizes that ranged from **160 to 705** participants per study. The mean age of the participants in these studies ranged from **67 to 76 years**, and the proportion of **women ranged from 26.5% to 58.7%. Ranibizumab** (Lucentis) was the reference product in seven studies, and **aflibercept** (Eyelea) was the reference product in two others. All the included studies had been **supported by industry**. The follow-up periods ranged from **12 to 52 weeks** (median 48 weeks). Five studies (56%) were conducted in **multi-country settings** across Europe, North America and Asia, two studies in India, and one each in Japan and the Republic of Korea. We judged all the included studies to have met **high methodological standards**.

Synthesis of results

- **<u>SOF outcomes only</u>** (N studies, N participants)

- Meta-analysis: summary estimate and confidence interval

- Comparing groups: direction of effect

- Certainty of the evidence

Synthesis of results: example

With regard to the safety profile, meta-analyses also revealed little to no difference between anti-VEGF biosimilars and the reference products for the proportion of participants who experienced serious ocular AEs (RR 1.24, 95% CI 0.68 to 2.26; 7 studies, 3292 participants; moderate-certainty evidence), and for TEAEs leading to investigational product discontinuation or death (RR 0.96, 95% CI 0.63 to 1.46; 8 studies, 3497 participants; moderate-certainty evidence). Overall, 1.4% of participants in the biosimilar group and 1.2% in the reference product group experienced serious ocular adverse events. The most frequently documented serious ocular AEs were retinal hemorrhage and endophthalmitis.

Synthesis of results: example

With regard to the safety profile, meta-analyses also revealed **little to no difference** between anti-VEGF biosimilars and the reference products for the proportion of participants who experienced **serious ocular AEs (RR 1.24, 95% CI 0.68 to 2.26; 7 studies, 3292 participants; moderate-certainty evidence)**, and for TEAEs leading to investigational product discontinuation or death (RR 0.96, 95% CI 0.63 to 1.46; 8 studies, 3497 participants; moderate-certainty evidence). **Overall, 1.4% of participants in the biosimilar group and 1.2% in the reference product group experienced serious ocular adverse events**. The **most frequently documented serious ocular AEs were retinal hemorrhage and endophthalmitis**.

Authors conclusions

- General interpretation of results

- Important implications

- No conclusions not supported by results

- Avoid making recommendations for clinical practice

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Authors conclusions: example

In our review, low to high certainty evidence suggests that there is little to no difference, to date, between the anti-VEGF biosimilars approved for treating neovascular AMD and their reference products in terms of benefits and harms. While anti-VEGF biosimilars may be a viable alternative to reference products, current evidence for their use is based on a limited number of studies - particularly for comparison with aflibercept - with sparse long-term safety data, and infrequent assessment of quality of life outcomes. Our effect estimates and conclusions may be modified once findings have been reported from studies that are currently ongoing, and studies of biosimilar agents that are currently in development.

Authors conclusions: example

In our review, **low to high certainty evidence** suggests that there is **little to no difference**, to date, between the anti-VEGF biosimilars approved for treating neovascular AMD and their reference products in **terms of benefits and harms**. While anti-VEGF biosimilars may be a viable alternative to reference products, **current evidence for their use is based on a limited number of studies** - particularly for comparison with aflibercept - with **sparse long-term safety data**, and **infrequent assessment of quality of life outcomes**. Our **effect estimates and conclusions may be modified** once findings have been reported from studies that are currently **ongoing**, and studies of biosimilar agents that are currently in **development.**

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Funding

- Primary source of funding

Registration

- Register name and number

- DOIs of previous published protocols and reviews

Protocol available via doi.org/10.1002/14651858.CD015804

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Style tips

- Stick to same sentence structure

- Same (and understandable) abbreviations and terminology throughout

- Results presented in same order as review

- Keep it simple!

Available from: **https://community.cochrane.org/style-manual**

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Resources

PRISMA

https://www.prisma-statement.org/

Cochrane Handbook

https://training.cochrane.org/handbook/current/chapter-iii

Cochrane Style Manual

https://community.cochrane.org/style-manual/cochrane-review-specific/abstracts

Thank you!

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