An emerging concern in the systematic review process

Identifying articles published in predatory journals

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Emerging concern

Predatory publications in evidence syntheses

Amanda Ross-White, AHIP; Christina M. Godfrey; Kimberley A. Sears; Rosemary Wilson

Dealing with predatory journal articles captured in systematic reviews

Danielle B. Rice[1,2,3*] , Becky Skidmore[2] and Kelly D. Cobey[2,4]

Predatory publishing dilutes and distorts evidence in systematic reviews

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Should I include studies from "predatory" journals in a systematic review? Interim guidance for systematic reviewers

Zachary Munn[1] · Timothy Barker[1] · Cindy Stern[1] · Danielle Pollock[1] · Amanda Ross-White[2] · Miloslav Klugar[3] · Rick Wiechula[4] · Edoardo Aromataris[1] · Larissa Shamseer[5]

Predatory journals

"Predatory journals and publishers are entities that prioritize **self-interest** at the expense of scholarship and are characterized by **false or misleading information**, **deviation from best editorial and publication practices**, a **lack of transparency**, and/or the use of **aggressive and indiscriminate solicitation practices**."

(Grudniewicz et al., 2019)

4

Systematic reviews

- **Rigorous** and **transparent** methodology to reduce risk of bias

- Based on an **exhaustive** literature search

- Underpin **evidence-based healthcare** decisions

Articles from predatory journals and systematic reviews

Threats of articles from predatory journals

– Potentially lower quality

– Might present unreliable or poorly documented data

– More likely to be impacted by fraud and error

A systematic review that includes these studies might therefore base its conclusions for guidance and policy on biased evidence.

No guidance on how to deal with articles from predatory journals, but some suggested actions.

(Barker et al., 2023 ; Munn et al., 2021 ; Rice et al., 2021)

Articles from predatory journals and systematic reviews

Our concern:

With or without guidance, how can we help systematic review researchers to identify articles from predatory journals?

Can we develop a tool that facilitates or automates the process?

Goal of the tool

For the articles retained after the screening process :

- Automate verification of **indicators** commonly associated with predatory publishing

- Generate a report with confidence scores

- Use of the results left to the sole discretion of the researchers

Aim: **awareness** raised, and **quality** improved, with an additional workload as **light** as possible for the researcher

Preamble

Do we use AI? **No**

Does our tool identify predatory journals? **No**

So what does it do? **It verifies indicators commonly associated with predatory publishing**

Development of the tool

Indicators limited to data sources which are:

- accessible in an automated manner
- freely accessible, or through subscriptions of our institution

Confidence score

- assigned weight per **indicator**, defined empirically

Indicators and penalties

Indicator	Penalty
Article not in MEDLINE and not in WoS Core Collection	**+ 5**
Journal not in MEDLINE and not in WoS Core collection	**+ 2**
Journal not member of COPE	**+ 3**
Journal not member of COPE and not in DOAJ	**+ 2**
Article is "Gold OA" on Unpaywall, and journal not in DOAJ	**+ 10**
Journal in "negative" DOAJ	**+ 10**
Journal on Beall's list	**+ 20**
Journal on Retraction Watch Hijacked Journal Checker	**+ 20**
Missing ISSN, or ISSN matching different journal	**+ 8**

Generated report

#	Reference	Article in Medline	Journal in Medline	Article in WoS (Core)	Journal in WoS (Core)	Journal in Cope	Journal in DOAJ	Journal in negative DOAJ list	Journal in Beall's List	Journal is hijacked (Retr. Watch)	on ISSN.org	OA Status (Unpaywall)	# Citations in Wos	iCite RCR	Score	Metadata to check	Messages
3	International Journal of Research in Medical Sciences, 2018 Comparison of analgesic efficacy between TAP block and local site infiltration postoperatively in caesarean section Medip Academy	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	Gold	0		42		The article cannot be located in the Web of Science Core Collection. The article cannot be located in MEDLINE. The journal is not currently indexed in MEDLINE. The journal cannot be located in the Web of Science Core Collection. The article is published in "Gold OA" according to Unpaywall, however the journal is not on DOAJ The journal cannot be located in COPE. The journal title "International Journal of Research in Medical Sciences" is found on Beall's list ("International Journal of Research in Medical Sciences").
4	Journal of Evolution of Medical and Dental Sciences-Jemds, 2017 PECTORAL NERVE BLOCK VERSUS THORACIC PARAVERTEBRAL BLOCK- COMPARISON OF ANALGESIC EFFICACY FOR POSTOPERATIVE PAIN RELIEF IN MODIFIED RADICAL MASTECTOMY SURGERIES Akshantala Enterprises Private Limited	✗	✗	✗	✓	✗	✗	✓	✗	✗	✓	Gold	0		30		The article cannot be located in the Web of Science Core Collection. The article cannot be located in MEDLINE. The journal is not currently indexed in MEDLINE. The ISSN of the journal is on the DOAJ negative list. The article is published in "Gold OA" according to Unpaywall, however the journal is not on DOAJ The journal cannot be located in COPE.
1	American Journal of Biomedical Engineering, 2013 Contrast medium volume optimization in abdominal CT on basis of lean body weight	✗	✗	✗	✗	✗		✓	✗	✗	✓	?	0		12	☑	The DOI of the reference cannot be resolved: 10.5923/s.ajbe.201310.04. The article cannot be located in the Web of Science Core Collection. The article cannot be located in MEDLINE. The journal is not currently indexed in MEDLINE. The journal cannot be located in the Web of Science Core Collection. The journal cannot be located in COPE.
2	Anaesthesia, Pain and Intensive Care, 2017 Transversus abdominis plane block offers prolonged postoperative analgesia than surgical incision infiltration by bupivacaine in cesarean section patients	✗	✗	✗	✓	✗	✓	✓	✗	✗	✓	?	0		8		The article cannot be located in the Web of Science Core Collection. The article cannot be located in MEDLINE. The journal is not currently indexed in MEDLINE. The journal cannot be located in COPE.

Generated report

	Article in Medline	Journal in Medline	Article in WoS (Core)	Journal in WoS (Core)	Journal in Cope	Journal in DOAJ	Journal in negative DOAJ list	Journal in Beall's List	Journal is hijacked (Retr. Watch)	on ISSN.org	OA Status (Unpaywall)	# Citations in Wos	iCite RCR	Score	Metadata to check	Messages
y in caesarean section	✕	✕	✕	✕	✕	✕	✕	✔	✕	✔	Gold	0		42		The article cannot be located in the Web of S The article cannot be located in MEDLINE. The journal is not currently indexed in MEDL The journal cannot be located in the Web of The article is published in "Gold OA" accordi DOAJ The journal cannot be located in COPE. The journal title "International Journal of Res list ("International Journal of Research in Me

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Generated report

42	The article cannot be located in the Web of Science Core Collection. The article cannot be located in MEDLINE. The journal is not currently indexed in MEDLINE. The journal cannot be located in the Web of Science Core Collection. The article is published in "Gold OA" according to Unpaywall, however the journal is not on DOAJ The journal cannot be located in COPE. The journal title "International Journal of Research in Medical Sciences" is found on Beall's list ("International Journal of Research in Medical Sciences").

Behind the scenes (I)

Data reconciliation challenge:

Title changes (name, ISSN), different spellings and abbreviations, translations

Intern Med J

→ Internal medicine journal

→ International medical journal

International internal medicine journal
The open general and internal medicine journal
The Internet journal of internal medicine
JAMA internal medicine

→ Conservative/fuzzy name matching

→ ISSN & Titles linking

→ Solid input metadata required

→ Mismatches are reported

Behind the scenes (II)

Checking if journal is in MEDLINE

- Search filter: `currentlyindexed`

- Example:

  `("1663-2818"[issn]) AND currentlyindexed[All]`

- NCBI Entrez Programming Utilities (E-utilities) APIs:

  https://eutils.ncbi.nlm.nih.gov/entrez/eutils/esearch.fcgi?
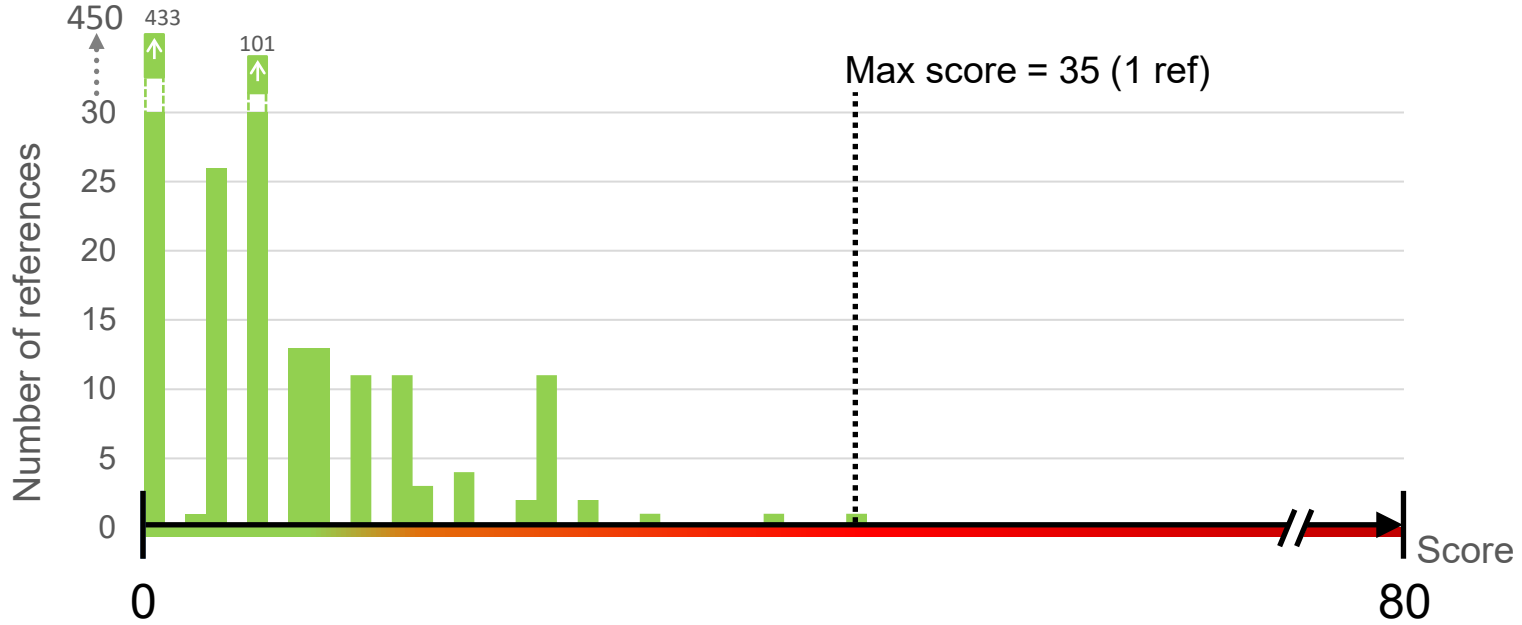 db=nlmcatalog&term=("1663-2818"[issn]) AND currentlyindexed[All]
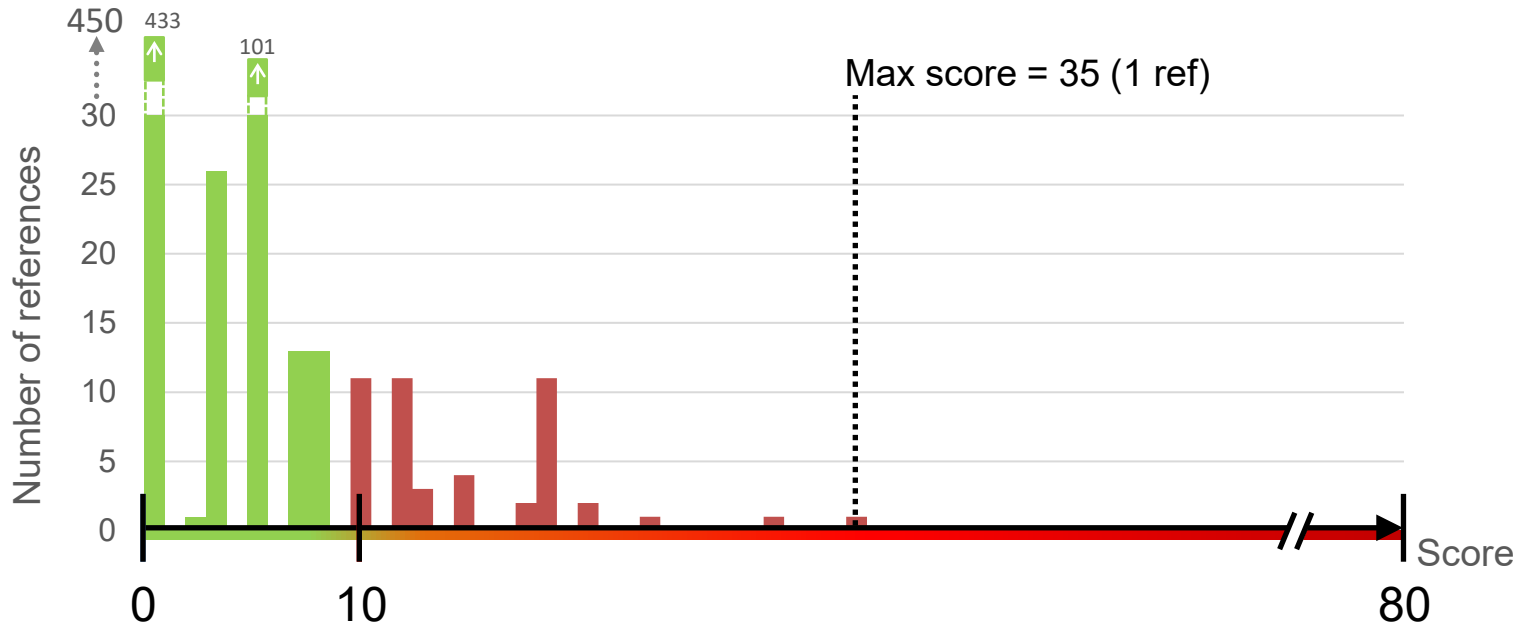
Analysis

We retrospectively analysed systematic or scoping reviews published in 2020-2021 in which our library was involved:

- 19 systematic/scoping reviews
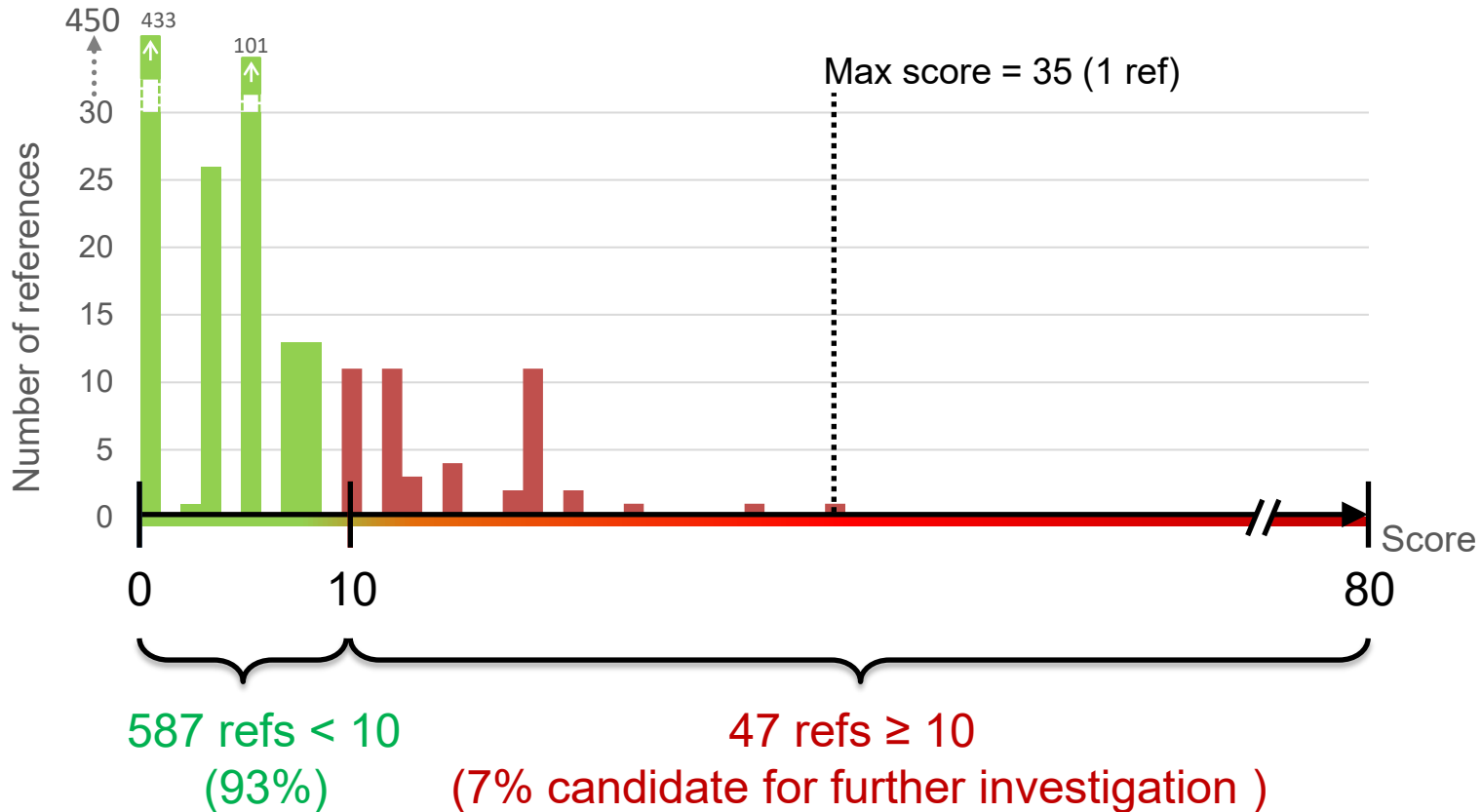- only references published after 2001
  - 634 references in total
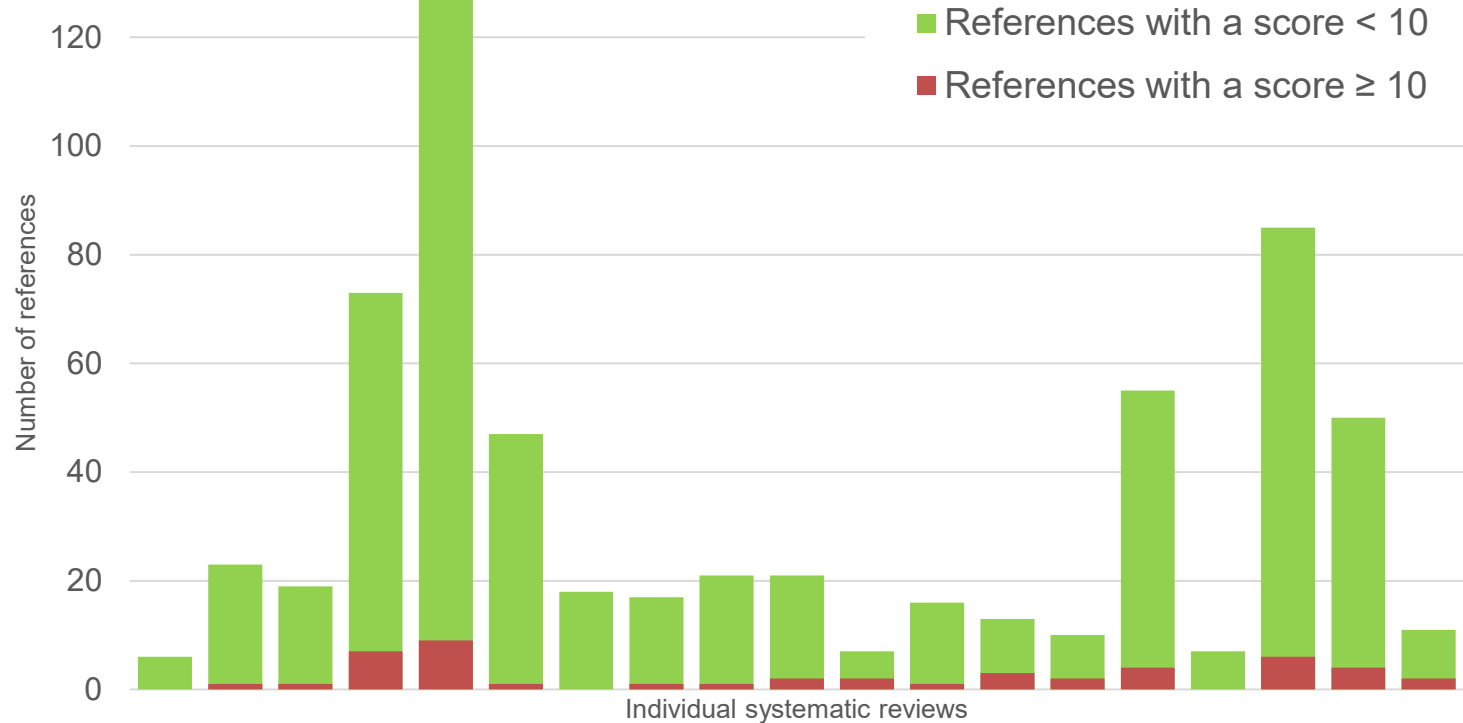
Indicator score distribution

Indicator score distribution

Indicator score distribution

450
433
30
25
20
15
10
5
0

101

Max score = 35 (1 ref)

Number of references

0   10   80

Score

587 refs < 10
(93%)

47 refs ≥ 10
(7% candidate for further investigation)

Distribution of candidates for verification per systematic review

Observations & lessons learned

- **We need solid metadata from the input references**

  →Alert when accuracy might be impacted

- **We observed that highlighted candidates (score ≥ 10) are worth being manually checked**

- ***Can all references under the threshold be cleared?***

  →In that case, a limited additional workload to be expected by the researchers (< 10% to be verified manually)

Validation

- Ongoing process
- References from recognised medical societies and publishers are considered legitimate and not checked
- References from non-open access journals not checked
- Remaining references to be checked manually
  - Cabells Predatory Reports
  - WAME
  - Think Check Submit

Conclusion

- Part of the identification process is now automated
- Not yet deployed, but our researchers are very interested
- Generated reports are detailed and will help raise awareness regarding issues with predatory publishing
- Still no definite guidance on how the authors should treat articles published in predatory journals

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