

Systematic Review and Appraisal of International Guidelines on Perinatal Care at the Limit of Viability

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INTRODUCTION

Guidelines can be beneficial and improve patient outcomes:

- Bring evidence into practice
- Support clinical decision making & direct therapeutic approaches

The number and quality of international guidelines on the perinatal care of potential Extremely Premature Infants (EPIs) is unknown:

- Use of different guidelines of variable quality may result in different outcomes for EPIs depending on their place of birth

The AGREE-II Tool provides a validated method of guideline assessment:

- '6-domain, 23-item, 2-overall ratings' instrument
- Assesses guideline quality using a 7 point Likert scale

PRIMARY OBJECTIVE

To systematically review and assess the quality of international guidelines on perinatal care at the limit of viability

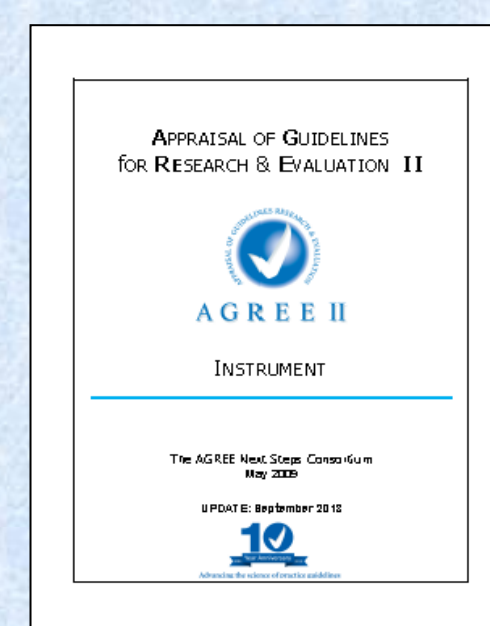
METHODS

Systematic review for Guidelines:

1. Electronic search: MEDLINE, Pre-MEDLINE and TRIP databases
2. Inclusion Criteria:
 - Published in or after 2000
 - Created by region, institution or organization that supports, is responsible for, or provides care for extremely premature infants
 - Includes a comprehensive care plan
 - English language
3. Screening: each step performed by two reviewers

AGREE-II Tool Appraisal:

- Assessments performed online (www.agreetrust.org)
- Two reviewers independently assessed each guideline
- Items with inter-reviewer score differences listed below were discussed to reach consensus on a revised score:
 - 1) 1 (strongly disagree) vs 4 (neutral) or more
 - 2) 4 (neutral) or less vs 7 (strongly agree)
 - 3) 2 vs 6



Data collection & analysis:

- Online tool compiled scores of all reviewers to generate final results
- A score of 100% indicates all reviewers scored 7 for all items in a domain
- Formula used to provide percentage score:

$$\frac{(\text{Obtained score} - \text{Minimum possible score})}{(\text{Maximum possible score} - \text{Minimum possible score})} \times 100$$

Where,

- ❖ Obtained = sum of all item scores for all appraisers in a single domain
- ❖ Minimum possible = 1 x items within domain x # appraisers
- ❖ Maximum possible = 7 x items within domain x # appraisers

SUMMARY TABLE OF GUIDELINE APPRAISALS

	United States ¹	Netherlands	New South Wales*	United Kingdom	Britain	British Columbia*	California*	Italy*	United States ²	Canada	Auckland
Year of Publication	2002	2006	2006	2006	2008	2008	2008	2008	2009	2012	2014
DOMAIN SCORES											
Domain 1: Scope and purpose	78%	67%	64%	86%	42%	56%	89%	75%	83%	65%	22%
Domain 2: Stakeholder involvement	22%	14%	92%	94%	25%	35%	31%	17%	47%	59%	6%
Domain 3: Rigour of development	50%	15%	45%	46%	22%	23%	20%	9%	17%	53%	6%
Domain 4: Clarity of presentation	81%	64%	75%	97%	61%	35%	81%	69%	44%	63%	53%
Domain 5: Applicability	4%	2%	25%	40%	2%	10%	10%	0%	2%	10%	4%
Domain 6: Editorial Independence	4%	0%	42%	0%	21%	94%	33%	0%	88%	8%	0%
Overall Score	42%	33%	58%	58%	33%	39%	25%	17%	33%	44%	17%

OVERALL RATING OF GUIDELINE QUALITY (ON 7 POINT LIKERT SCALE)

Appraiser 1	5	2	5	5	3	4	2	2	2	3	2
Appraiser 2	2	4	4	4	3	3	3	2	4	4	2

FINAL RECOMMENDATION FOR USE OF GUIDELINE

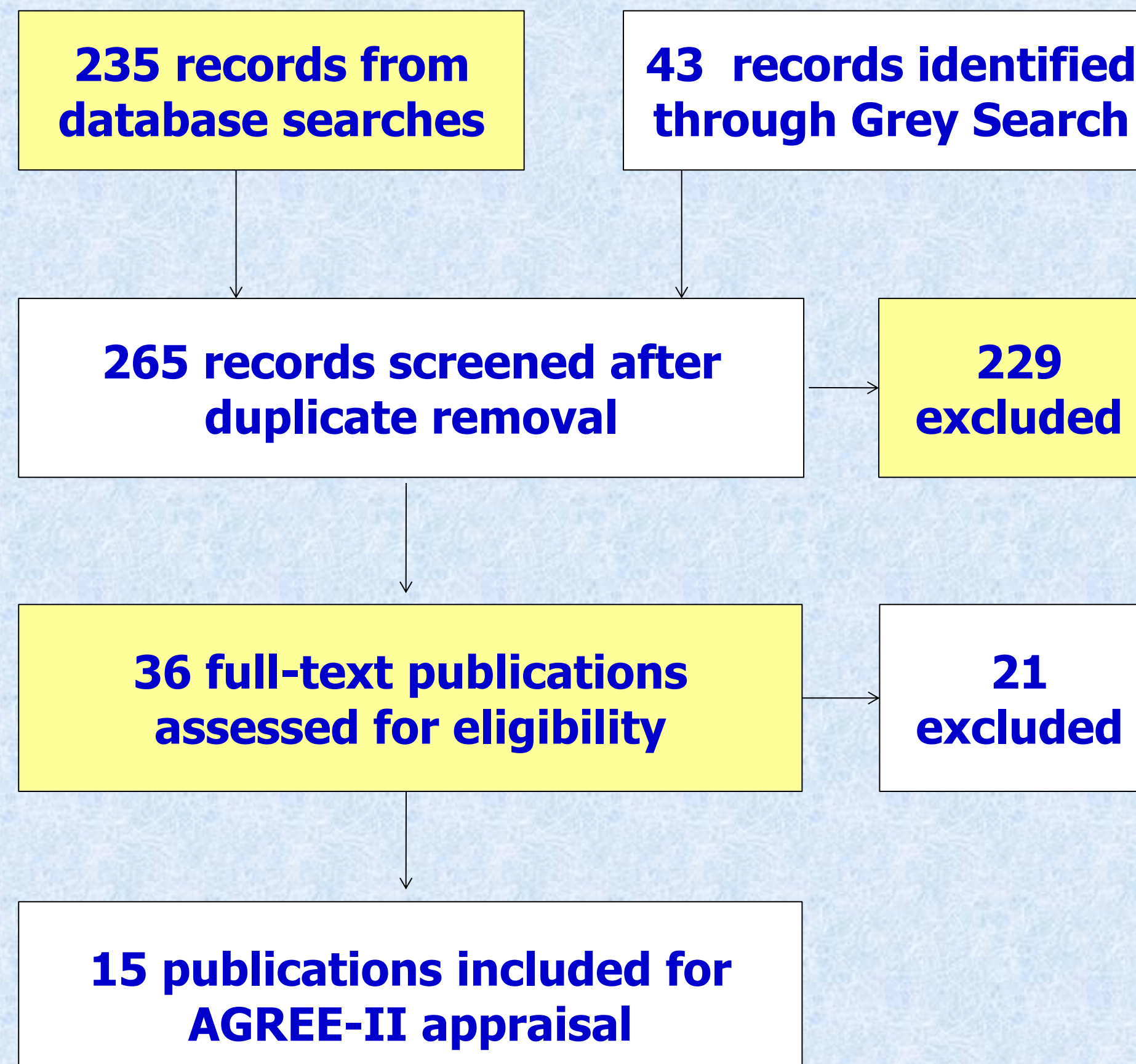
Appraiser 1	YM	N	YM	YM	N	YM	N	N	N	YM	N
Appraiser 2	N	N	YM	N	N	N	N	N	N	YM	N

LEGEND

*Four appraised guidelines are not shown in the summary table due to newer guidelines being available for these areas: British Columbia 1 (Overall: 8%), Padua/Italy (Overall: 17%), Australasia (Overall: 17%), Portland (Overall: 50%)

Final recommendation: N = NO, YM = Yes, with Modifications, Y = YES

OVERALL RESULTS



LIMITATIONS

- 1) Applicability of AGREE-II tool to guidelines on this topic is unknown:
 - Value based decision in many cases
 - Incorporation of ethics perhaps more than evidence
- 2) Incomplete attempt to obtain supplemental literature or documentation from most of those creating guidelines:
 - More information is likely available regarding specific items and could improve scores
- 3) AGREE-II appraisals do not conclude whether the final recommendations are 'right' or 'wrong':
 - Content validity and quality of evidence is not assessed
 - Low scores reflect issues with the transparency of guideline development
- 4) Adherence to and procedural use of the guidelines is not explored

CONCLUSION

1. Numerous published guidelines on perinatal care at the limit of viability exist
2. AGREE-II appraisals suggest that there is presently no guideline suitable for clinical use
3. In general, the domains of Applicability, Editorial Independence, and Rigour of development scored poorly
4. The use of poorly developed guidelines may be detrimental to decision-making processes and patient care
5. A number of regions need a guideline with recommendations established through a rigorous and transparent development process; modifications to several published guidelines may allow them to meet such a standard