

Evaluating Guidelines For Tobacco Cessation In Pregnancy: An Appraisal Using The AGREE II Instrument

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INTRODUCTION

Smoking is the most important preventable cause of adverse outcomes in pregnancy; however, most smokers who become pregnant continue to smoke and/or relapse after delivery. The identification of patients at risk can be challenging and treatment options available for clinicians are varied, including both non-pharmacologic and pharmacologic options. The challenges inherent in diagnosing and treating smoking in pregnancy suggest the use of clinical practice guide (CPGs). Several have been published to help identify at-risk patients and guide holistic management of tobacco use in pregnancy, but to date, there has been no comprehensive review of guideline quality or methodological rigor.

OBJECTIVE

It is essential that CPGs are clear, practical, and free from bias, and the Appraisal of Guidelines for Research and Evaluation (AGREE II) collaboration has developed a system by which to evaluate the quality of CPGs.

To the authors' knowledge there has been no comprehensive review of CPGs related to diagnosing and treating smoking in pregnancy. The goal of this study is to assess and quantify the quality and developmental rigor of the existing practice guidelines for the diagnosis and clinical management of smoking in pregnancy using the AGREE II tool.

METHODS

We conducted a comprehensive search of EMBASE, MEDLINE/PubMed, SCOPUS and grey literature sources until October 2022. The quality of these guidelines was assessed by four reviewers using the Appraisal of Guidelines for Research and Evaluation, 2nd edition (AGREE II). Domain scores were considered acceptable quality if they scored >60%, and Intraclass Correlation Coefficients (ICC) were calculated to assess agreement among the appraisers.

RESULTS

The initial database search yielded 731 non-duplicate results, which were screened for exclusion criteria. Seven CPGs were assessed for critical evaluation. Among these, the World Health Organization (WHO) guidelines achieved an overall rating of "high". The remaining six guidelines achieved ratings of "average" or "low". The "Scope and Purpose" domain achieved the highest mean score (87.1%±0.1%), while the "Editorial Independence" domain achieved the lowest mean score (52.4%±19.3%). ICC analysis showed good to very good agreement across all domains (0.55-0.97).

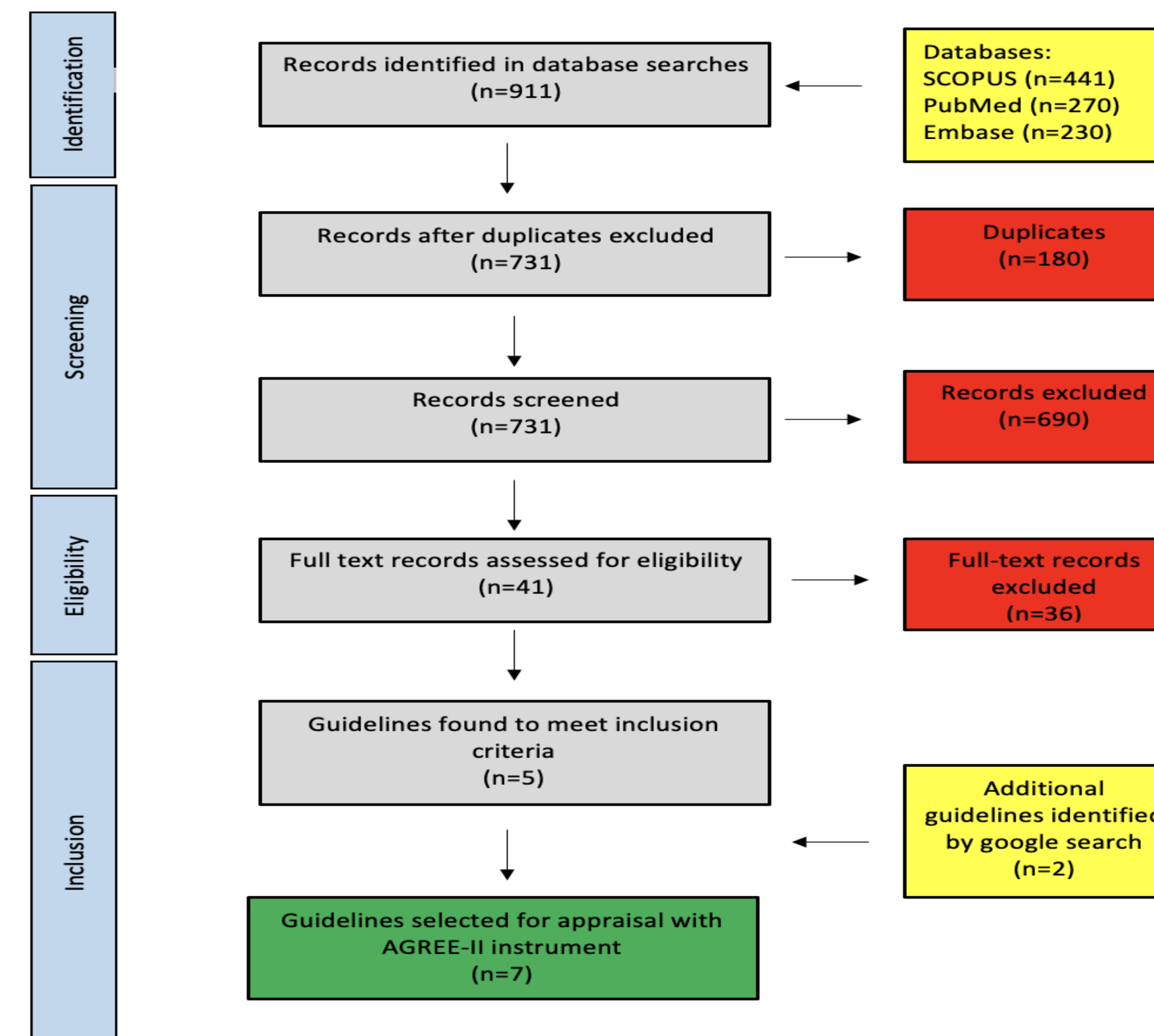
Table 1. Intraclass coefficients (ICC's) among guideline raters

Agree II domain	Intraclass correlation coefficient	95% confidence interval
Scope and Purpose	0.988	0.835 to 0.989
Stakeholder Involvement	0.821	0.789 to 0.984
Rigor of Development	0.855	0.410 to 0.894
Clarity of Presentation	0.790	0.110 to 0.915
Applicability	0.811	0.308 to 0.948
Editorial Independence	0.806	0.450 to 0.990

Table 2. Domain Scores for selected CPGs

Society/ Institution	Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	Domains ≥ 60	Overall Quality
	Scope and Purpose %	Stakeholder Involvement %	Rigor of Development %	Clarity and Presentation %	Applicability Assessment %	Editorial Independence %		
ACOG	86.1	36.1	37.5	80.5	40.0	27.1	2/6	Low
USPTF	95.8	88.9	82.8	93.1	54.2	43.8	4/6	Average
AFP	93.1	63.9	22.9	73.6	43.8	50.0	2/6	Low
NHS	75.0	13.9	41.7	75.0	24.0	4.2	2/6	Low
Oregon Health	83.3	58.3	75.0	90.3	72.9	47.9	3/6	Average
SOGC	94.4	83.3	51.0	84.7	58.3	64.6	4/6	Average
WHO	93.1	90.3	93.2	79.2	77.1	91.7	6/6	High
Mean ± SD	88.7 ± 7.6	62.1 ± 28.8	57.7 ± 26.2	82.3 ± 7.4	52.9 ± 18.7	47.0 ± 27.6		

Figure 1. Flow chart for CPG acquisition



DISCUSSION/CONCLUSION

Smoking is the most preventable cause of adverse outcomes in pregnancy. Pregnancy is a window of opportunity for health professionals to help smokers quit. Women are motivated to protect their baby's health and reduce the risk of complications.

CPGs are written by experts and help clinicians navigate challenging patients and provide standardized and cost-effective care. Unfortunately, this study demonstrate that the majority of clinical guidelines for smoking cessation in pregnancy are of suboptimal quality. Only one guideline from the World Health Organization was rated highly and recommended for clinical use. These findings highlight the variability in methodological quality of guidelines and may guide the selection and use of these guidelines in clinical practice.

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