

ROBIS: A Risk of Bias Assessment Tool for Systematic Reviews

A summary of

University of Bristol (2016). Tool to assess risk of bias in systematic reviews. Retrieved from: www.robis-tool.info



National Collaborating Centre
for Methods and Tools
Centre de collaboration nationale
des méthodes et outils

How to cite this NCCMT summary:

National Collaborating Centre for Methods and Tools (2018). *ROBIS: A Risk of Bias Assessment Tool for Systematic Reviews*. Hamilton, ON: McMaster University. (Updated 22 June, 2018) Retrieved from <http://www.nccmt.ca/resources/search/315>.

Categories:
Tool, Appraise
Tool

Date posted:
June 22, 2018

Date updated:
June 22, 2018

Relevance For Public Health

Public health practitioners require evidence to guide their decision making. Systematic reviews are considered the most reliable form of evidence, but they need to be appraised to ensure that results are not biased. The ROBIS tool is designed to assess risk of bias in reviews within health care settings in terms of four main categories: interventions, diagnosis, prognosis and etiology.

Description

ROBIS is a tool designed to assess risk of bias in systematic reviews. ROBIS differs from other tools that assess systematic reviews as it was specifically designed to assess risk of bias, while other tools focus on broader goals such as critical appraisal and quality assessment. The use of ROBIS can lead to more robust recommendations and improvements in public health and patient care.

Implementing the Tool

Who is Involved?

ROBIS can be used by anyone interested in assessing risk of bias in systematic reviews. The authors state that their target audience includes guideline developers, authors of overviews of systematic reviews and review authors who want to assess and avoid risk of bias in their reviews.

Steps for Using Tool

The tool includes three phases:

1. Assess relevance (optional)
2. Identify concerns with the review process
 - Study eligibility criteria
 - Identification and selection of studies
 - Data collection and study appraisal
 - Synthesis and findings
3. Judge risk of bias
 - Determine whether the limitations identified in phase 2 were considered in the overall risk of bias in the interpretation of review findings

Phase 1 asks users to assess the relevance of the systematic review in question by comparing the target question of the overview or guideline being developed with the question being addressed in the systematic review being assessed. Ideally, the review addresses the same target question as the overview or guideline being developed. This phase of the ROBIS tool is optional and is not applicable if the user is not developing a guideline or overview.

Phase 2 consists of four domains: study eligibility criteria, identification and selection of studies, data collection and study appraisal, and synthesis and findings. Each domain has five or six signalling questions

These summaries are written by the [NCCMT](http://www.nccmt.ca) to condense and to provide an overview of the resources listed in the [Registry of Methods and Tools](http://www.nccmt.ca) and to give suggestions for their use in a public health context. For more information on individual methods and tools included in the review, please consult the authors/developers of the original resources.

that are answered as “yes,” “probably yes,” “probably no,” “no” or “no information.” Once the signalling questions have been answered, the user can identify concerns regarding the synthesis and findings for each of the four domains as “low,” “high” or “unclear.”

Phase 3 is a summary of the concerns identified in phase 2 of the assessment. Each domain is assessed by concern and rationale for the concern. Finally, the risk of bias in the review is assessed based on three questions:

1. Did the interpretation of findings address all of the concerns identified in Domains 1 to 4?
2. Was the relevance of identified studies to the review’s research question appropriately considered?
3. Did the reviewers avoid emphasizing results on the basis of their statistical significance?

In order to ensure transparency in ratings, the information used to make each judgement is recorded.

Conditions for Use

© 2016 The Authors

Evaluation and Measurement Characteristics

Evaluation

Information not available

Validity

Not applicable

Reliability

Not applicable

Methodological Rating

Not applicable

Tool Development

Developers

NIHR CLAHRC West
University Hospitals Bristol NHS Foundation Trust
9th Floor, Whitefriars, Lewins Mead,
Bristol BS1 2NT
Phone: +44 117 34 212 73

Method of Development

ROBIS was developed using a four-stage approach: define the scope, review the evidence base, hold a face-to-face meeting and refine the tool through piloting.

Release Date

2016

Contact Person

Penny Whiting
University of Bristol
Phone: +44 117 34 212 73
Email: penny.whiting@bristol.ac.uk

Resources

Title of Primary Resource	ROBIS: Tool to Assess Risk of Bias in Systematic Reviews
File Attachment	None
Web-link	http://www.robis-tool.info
Reference	University of Bristol (2016). Tool to assess risk of bias in systematic reviews. Retrieved from: www.robis-tool.info
Type of Material	Online resource
Format	On-line Access
Cost to Access	None.
Language	English, Portuguese, Italian, Spanish
Conditions for Use	None

Title of Supplementary Resource	ROBIS tool
File Attachment	None
Web-link	http://www.bristol.ac.uk/population-health-sciences/projects/robis/robis-tool/
Reference	University of Bristol (2017). ROBIS tool. Retrieved from: http://www.bristol.ac.uk/population-health-sciences/projects/robis/robis-tool/
Type of Material	Website
Format	On-line Access
Cost to Access	None.
Language	English
Conditions for Use	None

Title of Supplementary Resource	ROBIS: A New Tool to Assess Risk of Bias in Systematic Reviews Was Developed
File Attachment	None
Web-link	https://ac.els-cdn.com/S089543561500308X/1-s2.0-S089543561500308X-main.pdf?_tid=a17ddb5e-aded-11e7-87c3-00000aacb35d&acdnat=1507661929_eaccdcf7c86db6b5841f7bf8a684e052
Reference	Whiting, P., Savovic, J., Higgins, J.P.T., Caldwell, D.M., Reeves, B.C., Shea, B., et al. (2016). ROBIS: A new tool to assess risk of bias in systematic reviews was developed. <i>Journal of Clinical Epidemiology</i> , 69, 225-234.
Type of Material	Journal Article
Format	Periodical
Cost to Access	None.
Language	English
Conditions for Use	© 2016 The Authors