

Fatal Flaws in Coleman's Meta-Analysis of Abortion and Mental Health

James Trussell and Kate Guthrie

Authors

- Julia R. Steinberg, PhD, Department of Psychiatry, University of California, San Francisco
- James Trussell, PhD, Office of Population Research, Princeton University and The Hull York Medical School
- Kelli Hall, PhD, Office of Population Research, Princeton University
- Kate Guthrie, FRCOG FFSRH, CHCP Hull

Review article

Abortion and mental health: quantitative synthesis and analysis of research published 1995–2009

Priscilla K. Coleman

Coleman Meta-Analysis

- 23 studies
- 36 effect sizes
- Women who had undergone an abortion experienced an 81% increased risk of mental health problems, and nearly 10% of the incidence of mental health problems was shown to be attributable to abortion.



Women who have abortions 'face double the risk of mental health problems'

By STEVE DOUGHTY

Last updated at 8:22 AM on 1st September 2011

[Comments \(77\)](#) | [Share](#) +1 0 | [Tweet](#) 0 | [Like](#) 590

Trade rush hour for happy hour.

The Florida Keys
Key West
Close To Perfect. Far From Normal.

[Watch Video](#)

[Calendar of Events](#)

[Learn More](#)



Women who have abortions are at risk of severe mental health problems, according to a study.

The research found that those who undergo abortion face nearly double the risk of mental health difficulties compared with others and that one in ten of all mental health problems was a result of abortion.

The findings are certain to cause major controversy at a time when the pro- and anti-abortion lobbies are already in the midst of a vicious row playing out in Parliament.

Tory MP Nadine Dorries, backed by Labour's Frank Field, has put down an amendment to a Health Bill which would require women seeking abortion to first see an independent counsellor.

Miss Dorries said in yesterday's Daily Mail that she is subjected to 'constant vilification and near-daily death threats' over her stance on



Nadine Dorries has led a campaign to

A Colloquium on the Psychological Effects of Abortion

Prof Priscilla Coleman and Prof Patricia Casey

Tuesday March 6, 2012, between

14.00-16.00 pm in Committee Room 10, House of Commons

Dr. Priscilla Coleman, Professor of Human Development and Family Studies at Bowling Green State University, will be in London this March, and will be keynote speaker at the above event.

A major concentration of her research has focused on the psychological outcomes among women who have experienced abortion. She has published numerous articles in psychology and medical journals and has presented her research to national and international audiences.

A conservative estimate from the best data analyses indicates that some 20-30% of women who undergo abortion will experience significant negative consequences. Interpretation of available research that does not acknowledge this evidence ignores principles of scientific integrity.

The consequences of denial of the psychological impact of abortion leads to misinformed professionals and leaves millions of women worldwide struggling alone to cope with the aftermath of past abortions.

If you are interested in attending this event could you contact the ProLife Alliance by responding by email.

**ACADEMY OF
MEDICAL ROYAL
COLLEGES**

NATIONAL
COLLABORATING
CENTRE FOR
MENTAL HEALTH

INDUCED ABORTION AND MENTAL HEALTH

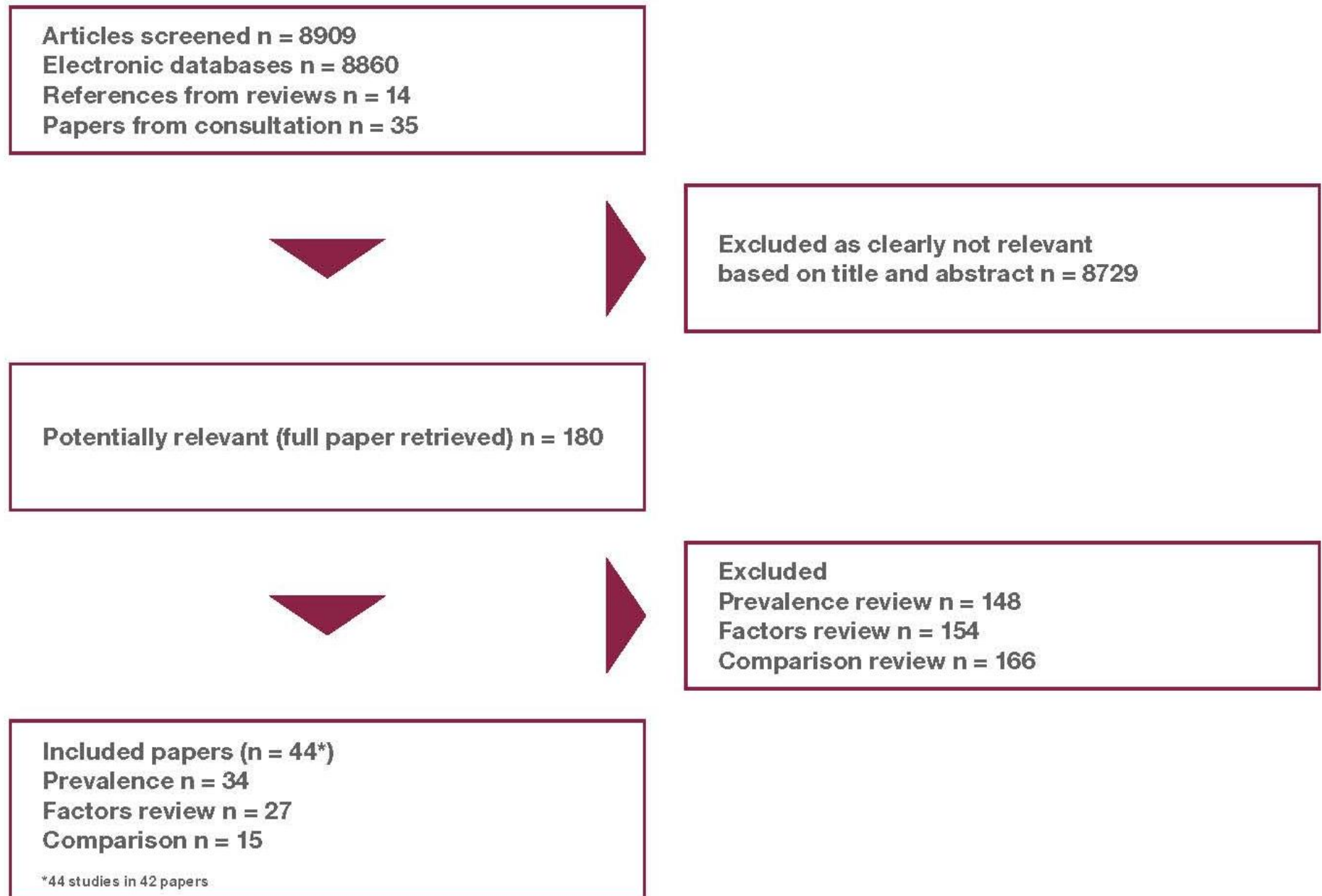
A SYSTEMATIC REVIEW OF THE MENTAL HEALTH
OUTCOMES OF INDUCED ABORTION, INCLUDING
THEIR PREVALENCE AND ASSOCIATED FACTORS.

DECEMBER 2011

RCPsych Review

- The Steering Group consisted of 19 members, including representatives of the RCPsych, the RCOG, the Royal College of General Practitioners, technical staff from the National Collaborating Centre for Mental Health (NCCMH), and four members from the Department of Health who observed two meetings each and monitored progress.

Figure 1: Studies considered and included in the review



RCPsych Review Conclusions

- Evidence from the narrative review and meta-analysis indicated that for the majority of mental health outcomes, there was no statistically significant association between pregnancy resolution and mental health problems.

RCPsych Review Conclusions

- Where we found a statistically significant association between abortion and a mental health outcome, for example increased rates of self-harm and lower rates of psychosis, the effects were small (psychosis) and prone to bias (for instance, there were common factors underlying seeking an abortion and later self-harm).

RCPsych Review Conclusions

- In this review, we have surmised that the associations between abortion and mental health outcomes are unlikely to be meaningful.
- When a woman has an unwanted pregnancy, rates of mental health problems will be largely unaffected whether she has an abortion or goes on to give birth.

RCPsych's Review of Coleman's Meta-analysis

- The RCPsych review stated that “A number of methodological problems with the meta-analysis conducted in the Coleman review have been identified, which brings into question both the results and conclusions.”

Why the Difference?

- The RCPsych review is excellent science.
- Coleman's meta-analysis is junk science that should never have been published. Complete failure of peer-review and editorial oversight.

Quality of Coleman's Meta-Analysis

- Ten letters to the editor were highly critical of Coleman's methods, with 3 calling for a retraction of this meta-analysis.
- A commentary written by authors of the RCPsych review concluded that the Coleman meta-analysis "cannot be regarded as a formal systematic review."

Errors in the Coleman Meta-Analysis

1. Violating guidelines for conducting meta-analyses
2. Not accounting for dependence of effect sizes
3. incorrect formula used for calculating population attributable risk
4. Not adhering to her own exclusion and inclusion criteria
5. Misclassification of the comparison group,
6. Effect sizes that were adjusted for different factors
7. Invalid inferences regarding the proportion of births that are unintended.

Violating Meta-Analysis Guidelines

- Conflict of interest exists because 11 of the 23 studies included were her own studies.
- When conducting a meta-analysis and deciding whether a study conducted by oneself should be included, the Cochrane Collaboration says “there should be an independent assessment of eligibility and risk of bias by a second author [of the meta-analysis] with no conflict of interest.”

Significant Shortcomings

- Wide variation in design quality and bias among included studies
- Measurement of mental health
- Method of controlling for prior mental health

Varying Quality

- 13 studies included in Coleman's meta-analysis (she was an author of 7 of these) were excluded from the RCPsych analysis that compared women who aborted to other women.
- Of the other 10 studies that were included in Coleman's meta-analysis, 3 were rated as poor, 1 as fair, 4 as good, and 2 as very good by the RCPsych review.

Measurement of Mental Health

- Coleman fails to adequately distinguish conceptually among mental health outcomes, giving equal weight to risk behavior outcomes like alcohol or marijuana use during pregnancy or any marijuana use or any alcohol use as she does to more severe psychiatric outcomes like suicide
- She does not distinguish between methods of assessment such as clinical diagnoses made by structured psychiatric interviews and those of single item measures

Controls for Prior Mental Health

- 2 effect sizes used a covariate of mental health at any time before the pregnancy
- 17 effect sizes used a covariate of mental health or a related construct at one point in time (e.g., at age 15) or for a period (but not all) of time before the pregnancy
- 5 effect sizes excluded women with a mental health problem for a period of time (e.g., 12-18 months) before the pregnancy or for all the time before the pregnancy
- 12 effect sizes did not control for prior mental health at all

Conclusions

- Coleman makes the point that her review is unbiased because it was a meta-analysis that quantified the effect of abortion on mental health.
- However, 13 studies included by Coleman did not even merit inclusion in the RCPsych review because they were of lower than very poor quality.
- A meta-analysis cannot be used to make good science out of (mostly) bad science.

A paper published in
a prestigious
journal may
nevertheless be
fatally flawed!