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Evaluation of Spin in the Abstracts of Systematic Reviews Regarding the Treatment of Acne Vulgaris

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INTRODUCTION

Spin is the misrepresentation of study findings which may positively or negatively influence the reader's interpretation of the results. Little is known regarding the prevalence of spin in abstracts of systematic reviews – specifically systematic reviews pertaining to management and treatment for acne vulgaris.

OBJECTIVES

Our primary objective aimed to characterize and determine the frequency of each type of spin in systematic review abstracts. More specifically, we evaluated for the top 9 most severe types of spin as previously outlined by Yavchitz *et al*.[1] Our secondary objective was to evaluate whether various study characteristics corresponded with the presence of spin in systematic review abstracts regarding acne vulgaris.

METHODS

Using a cross-sectional study design, we searched PubMed and Embase for systematic reviews focusing on the management and treatment of acne vulgaris. Our search returned 316 studies, of which 36 were included in our final sample. To be included, each systematic review must have addressed either pharmacologic or non-pharmacologic treatment of acne vulgaris. These studies were screened and data were extracted in duplicate by two blinded investigators. We analyzed systematic review abstracts for the 9 most severe types of spin.

Table 1. Characteristics of Included Studies

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Characteristics	**No. (%) Total (n=36)**	**No. (%) With Spin (n=11)**
Source of Funding (n=36)		
Public	12 (33.3)	3 (27.3)
Industry	6 (16.7)	2 (18.2)
Not Funded	6 (16.7)	3 (27.3)
Funding Not Mentioned	12 (33.3)	3 (27.3)
Intervention Type (n=36)		
Pharmacologic	23 (63.9)	8 (72.7)
Non-Pharmacologic	11 (30.6)	3 (27.3)
Combined	2 (5.6)	0
Journal Requirement for PRISMA (n=36)		
Yes	21 (58.3)	7 (63.6)
No	15 (41.7)	4 (36.4)
Journal Requirement for PRISMA-A (n=36)		
Yes	0	0
No	0	0
Use of a Medical Writer (n=36)		
Yes	2 (5.56%)	1 (9.09%)
No	34 (94.44%)	0

Figure 1. Study Selection

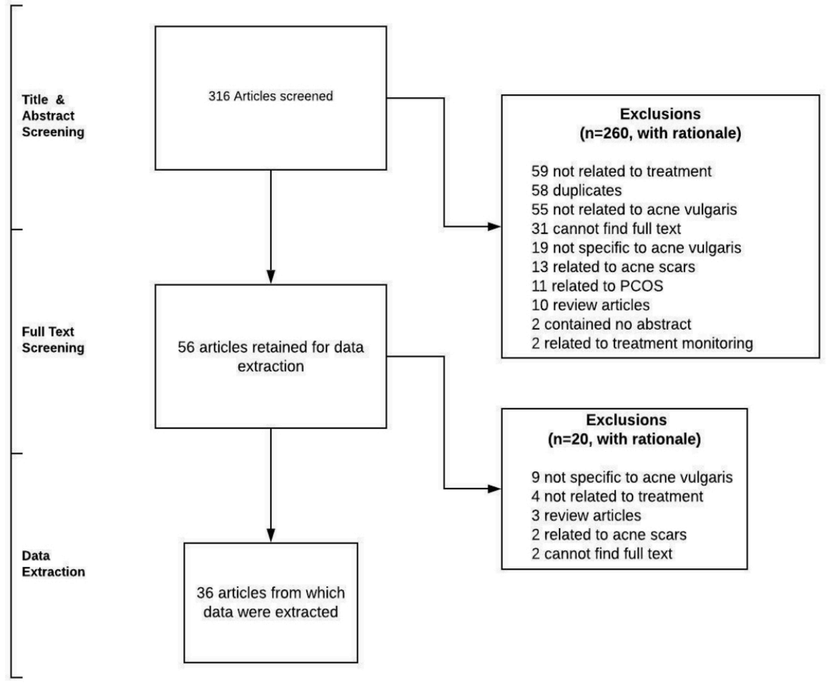

Table 2. Frequency of Each Type of Spin.

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Type of Spin	**No. (%) (n=12)**
1. Conclusion contains recommendations for clinical practice not supported by the findings.	0 (0.0%)
2. Title claims or suggests a beneficial effect of the experimental intervention not supported by the findings.	0 (0.0%)
3. Selective reporting of or overemphasis on efficacy outcomes or analysis favoring the beneficial effect of the experimental intervention.	5 (41.67%)
4. Conclusion claims safety based on non-statistically significant results with a wide confidence interval.	0 (0.0%)
5. Conclusion claims the beneficial effect of the experimental treatment despite high risk of bias in primary studies.	4 (33.3)
6. Selective reporting of or overemphasis on harm outcomes or analysis favoring the safety of the experimental intervention.	1 (83.33)
7. Conclusion extrapolates the review's findings to a different intervention (i.e., claiming efficacy of one specific intervention although the review covers a class of several interventions).	2 (16.67)
8. Conclusion extrapolates the review's findings from a surrogate marker or a specific outcome to the global improvement of the disease.	0 (0.0%)
9. Conclusion claims the beneficial effect of the experimental treatment despite reporting bias.	0 (0.0%)
Note: More than one type of spin may have been present in the same systematic review	

RESULTS

Spin was present in 11 of 36 abstracts (30.56%). Twelve examples of spin were identified in the 11 abstracts containing spin, with one abstract containing two instances of spin. The most common type of spin, *selective reporting of or overemphasis on efficacy outcomes or analysis favoring the beneficial effect of the experimental intervention*, was identified 5 times (5/12, 41.67%). Sixteen of the 36 (16/36, 44.44%) studies did not report a risk of bias assessment. Of the 11 abstracts containing spin, 6 did not report a risk of bias assessment or performed a risk of bias assessment but did not discuss it (6/11, 54.55%). Spin in abstracts was not significantly associated with a specific intervention type, the use of a medical writer, funding source, journal impact factor, or PRISMA/PRISMA-A journal requirements.

CONCLUSION

Abstracts with evidence of spin have the potential to influence clinical decision making. Therefore, further research is needed to evaluate what types of spin have the greatest influence on clinical practice. To help address the misrepresentation of study findings, we offer recommendations to better educate and improve peer-reviewers' and editors' awareness of, and ability to identify, spin in abstracts of systematic reviews.

REFERENCES

References:
1. Yavchitz A, Ravaud P, Altman DG, et al. A new classification of spin in systematic reviews and meta-analyses was developed and ranked according to the severity. *J Clin Epidemiol*. 2016;75:56-65.