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INTRODUCTION

Obesity is a complex and multifactorial disease that remains one of the leading causes of preventable death worldwide. There have been many studies to determine the most effective interventions for obesity. However, the principles of these interventions should be standardized such that replicable techniques can be used to improve patient outcomes. We investigated the prevalence of behavioral change taxonomies in systematic reviews and meta-analyses related to obesity management. In addition, we analyzed the funding sources, author conflicts of interest statements, risk of bias, and favorability of the results in such studies to determine if there was a relationship between methodological quality and taxonomy use.

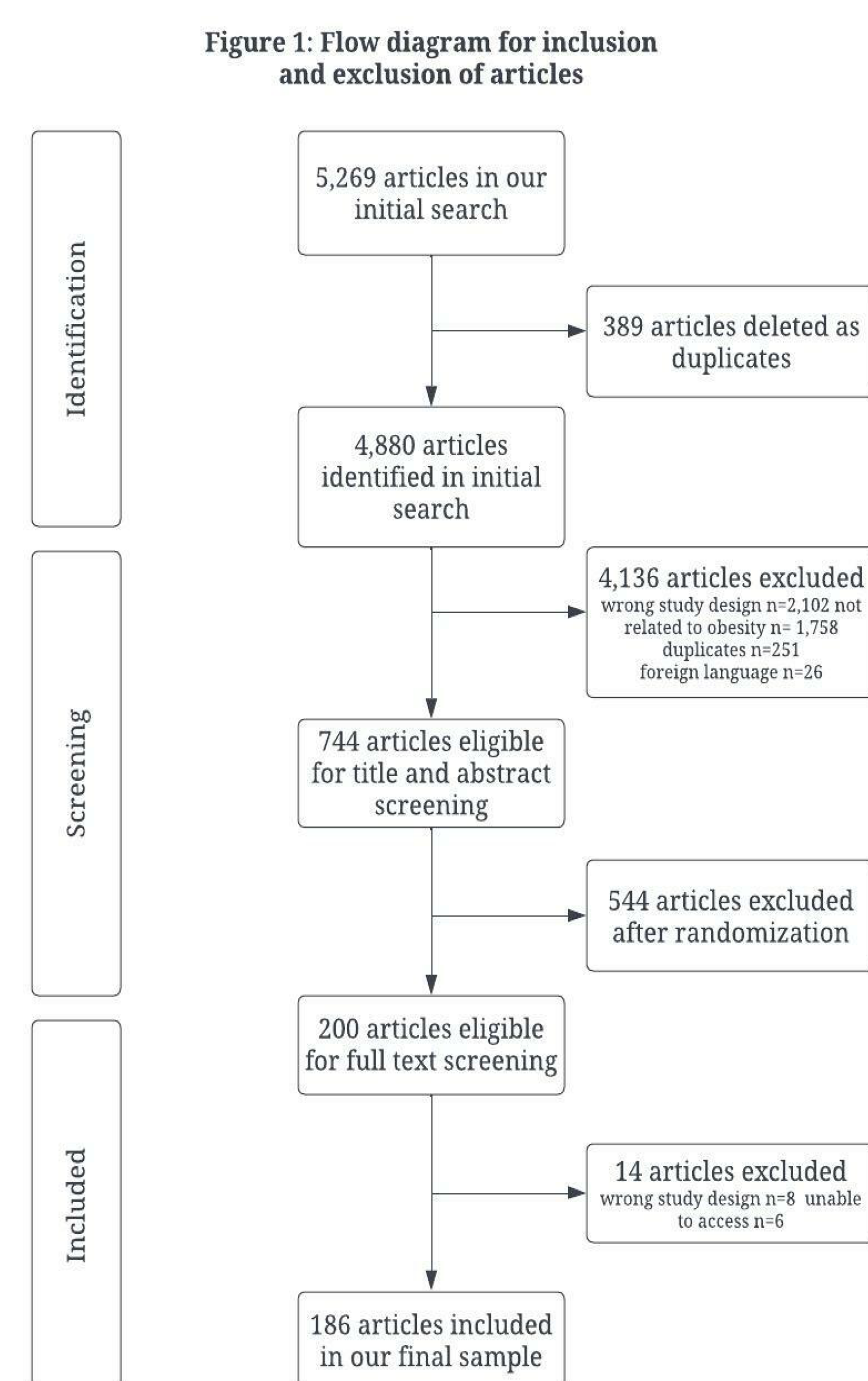
METHODS

We searched several databases including MEDLINE, Epistemonikos, Cochrane EDSR, PubMed, and Embase for systematic reviews and meta-analyses regarding the behavioral treatment of obesity. Screening and data extraction was performed in a masked, duplicate fashion. We performed statistical analyses to determine any significant association between use of taxonomy and study characteristics.

RESULTS

Fifteen (of 186; 8.06%) systematic reviews used a taxonomy—9 used the BCTTv1 taxonomy, 3 used the OXFAB, 2 used the CALO-RE, and 1 used “Taxonomy of choice architecture techniques.” Most interventions that referenced a taxonomy were self-mediated (6/60, 10%). Behavioral change taxonomies were mentioned in 10 (of 87, 11.49%) studies with a public funding source. Of the studies with favorable results, 14 studies (of 181, 7.73%) referred to a taxonomy. We found no statistically significant relationships between use of taxonomy and study characteristics.

Figure 1: Flow Diagram for inclusion of studies



TABLES AND FIGURES

Table 1. Assessment of the use of taxonomies in SRs of behavioral interventions for obesity and associated characteristics.

Characteristic	Total n (%)	No Taxonomy n (%)	Taxonomy n (%)	Chi-square test, P
Type of Intervention				
City government	1 (0.54)	1 (100)	0 (0)	154.53, .56
Commercial	1 (0.54)	1 (100)	0 (0)	
Environmental	2 (1.08)	2 (100)	0 (0)	
Faith-based setting	1 (0.54)	1 (100)	0 (0)	
Multicomponent	1 (0.54)	1 (100)	0 (0)	
Parenting	11 (5.91)	11 (100)	0 (0)	
Primary Care	49 (26.34)	45 (91.84)	4 (8.16)	
School program	23 (12.37)	23 (100)	0 (0)	
School-based and parenting	1 (0.54)	1 (100)	0 (0)	
Self-mediated	60 (32.26)	54 (90)	6 (10)	
Social Media	1 (0.54)	1 (100)	0 (0)	
Technology	26 (13.98)	22 (84.62)	4 (15.38)	
Workplace	9 (4.84)	8 (88.89)	1 (11.11)	
Favorability of Results				
Favorable	181 (97.31)	167 (92.27)	14 (7.73)	5.03, .08
Unclear	2 (1.08)	1 (50)	1 (50)	
Unfavorable	3 (1.61)	3 (100)	0 (0)	
Funding statement				
No	30 (16.13)	30 (100)	0 (0)	3.14, .08
Yes	156 (83.87)	141 (90.38)	15 (9.62)	
Funding Source				
Hospital	1 (0.54)	1 (100)	0 (0)	7.60, .27
No funding received	38 (20.43)	37 (97.37)	1 (2.63)	
No statement listed	30 (16.13)	30 (100)	0 (0)	
Nonprofit	4 (2.15)	3 (75)	1 (25)	
Private/Industry	8 (4.3)	7 (87.5)	1 (12.5)	
Public	87 (46.77)	77 (88.51)	10 (11.49)	
University	18 (9.68)	16 (88.89)	2 (11.11)	

CONCLUSION

In conclusion, we found that systematic reviews regarding the management of obesity rarely mention a behavioral change taxonomy. Given the global burden of obesity, it is crucial that behavioral change techniques are reproducible and translatable. We recommend that researchers look further into how taxonomies affect the reproducibility of behavioral interventions to strengthen the methodological quality of research and improve patient outcomes.



ACKNOWLEDGEMENTS

The authors would like to thank Courtney Kennedy, our systematic review librarian for conducting the article search. CF and MV had the initial idea of conducting the study. Data extraction was performed by OO and BS. All authors approved the final manuscript.