

A meta-analysis of the relationship between body mass index and risk of rheumatoid arthritis

[Article - PDF](#)[Article - HTML](#)[Article - XML](#)**Published** Nov 6, 2018**DOI** <https://doi.org/10.17179/excli2018-1763>**Ying Zhou**

Division of Rheumatology, Research Institute of Surgery, Daping Hospital, the Army Medical University, Chongqing 400042, China

Mingfang Sun

Division of Rheumatology, Research Institute of Surgery, Daping Hospital, the Army Medical University, Chongqing 400042, China

Abstract

The present meta-analysis aimed to evaluate the relationship between body mass index (BMI) and rheumatoid arthritis (RA). A systematic search of the Cochrane, Pubmed, and Embase databases was conducted to identify relevant studies published before September 2017 using terms related to BMI and RA. Fixed or random-effect models were used to estimate the pooled relative risk (RR) with 95 % confidence interval (CI). Subgroup analyses by sex were performed to investigate the association between BMI and RA in male and female subgroups. A total of 14 eligible studies containing 353,948 patients were included in the analysis. The pooled results suggested that the odds ratios (ORs) of RA were 1.08 (95 % CI: 1.00~1.15) for overweight, and 1.32 (95 % CI: 1.11~1.54) for obesity, respectively, suggesting that a higher BMI increases the risk of RA compared to normal weight. Further subgroup analyses showed a positive association between BMI and RA risk but only in females, with a RR of 1.11 (95 % CI: 1.00~1.22) for overweight and 1.40 (95 % CI: 1.24~1.57) for obesity. In conclusion, an increased BMI may lead to a higher risk for RA development. Furthermore, the positive association between BMI and RA risk may be stronger in female populations than in males. However, additional analyses are needed.

How to Cite

Zhou, Y., & Sun, M. (2018). A meta-analysis of the relationship between body mass index and risk of rheumatoid arthritis. *EXCLI Journal*, 17, 1079-1089. <https://doi.org/10.17179/excli2018-1763>

[More Citation Formats ▾](#)**Issue**[Vol 17 \(2018\)](#)**Section**[Original articles](#)



This work is licensed under a [Creative Commons Attribution 4.0 International License](#).

Authors who publish in this journal agree to the following terms:

- The authors keep the copyright and grant the journal the right of first publication under the terms of the Creative Commons Attribution license, [CC BY 4.0](#). This licence permits unrestricted use, distribution and reproduction in any medium, provided that the original work is properly cited.
- The use of general descriptive names, trade names, trademarks, and so forth in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.
- Because the advice and information in this journal are believed to be true and accurate at the time of publication, neither the authors, the editors, nor the publisher accept any legal responsibility for any errors or omissions presented in the publication. The publisher makes no guarantee, express or implied, with respect to the material contained herein.
- The authors can enter into additional contracts for the non-exclusive distribution of the journal's published version by citing the initial publication in this journal (e.g. publishing in an institutional repository or in a book).

Powered by



[Make a Submission](#)

USER

Username

Password

☐ Remember me

[Login](#)

JOURNAL CONTENT

Search

Search Scope

All

[Search](#)

BROWSE

[By Issue](#)

[By Author](#)

EXCLI Journal has been added to

[Directory of Open Access Journals \(DOAJ\)](#)

[Electronic Journals Library \(EZB\)](#)

Web of Science
SCOPUS
Pubmed Central
Pubmed
EBSCO Academic Search
SCImago
LIVIVO
BASE

Impact Factor

2013: 0.728
2014: 0.857
2015: 1.292
2016: 1.462
2017: 2.424

EXCLI Journal is a platinum open access journal. There are neither fees for authors submitting their papers nor fees for readers accessing PDFs of the published papers.

Articles published in EXCLI Journal are licensed under a [Creative Commons Attribution 4.0 International License](#).

