Background Although frequently worn by many women in line with traditional female gender identity, high-heeled shoes (high heels) have been shown to be detrimental to musculoskeletal health and increase the risk of injury. However, no evidence synthesis has considered both the psychosexual benefits and the epidemiological and biomechanical impacts of their wear. We present a systematic review of reviews concerned with the public health challenge of high heels considering all three of these aspects.

Methods Seven standard academic health bibliographic databases, including MEDLINE and EMBASE, were searched up to November 2016 using high heel-related keywords such as “high heel” and “stiletto”. Supplementary searches were also conducted in Google Scholar, Directory of Open Access Journals and bibliographies of relevant articles. Due to several review articles on aspects of our research question, we initially included all review articles that provided evidence linking high heels to psychosexual benefits or musculoskeletal health problems (osteoarthritis, hallux valgus, pain or injury) from an epidemiological or biomechanical perspective in participants without prior history of significant musculoskeletal conditions. We then considered additional primary studies addressing areas on which there was no review or an identified lack of evidence. Narrative synthesis was conducted using standard forms. Proportionate second review was conducted.

Results A total of 506 unique records were identified, 27 full-text publications were screened and 20 publications (7 reviews and 13 additional primary studies) were included in our narrative synthesis. All available psychosexual studies show that high heels increase women’s attractiveness to men, although they are uncritical regarding heteronormativity. The most up-to-date epidemiological review provides clear evidence of a link to hallux valgus, pain and first-party injury. The body of biomechanical reviews also provides clear evidence of changes indicative of increased risk of these outcomes plus osteoarthritis. With regard to second-party injury, evidence is limited to one descriptive study and eight case reports.

Conclusion Our evidence synthesis clearly shows that high heels bring psychosexual benefits to women, but are detrimental to their musculoskeletal health. Considering this dilemma, it is important that women’s freedom of choice is respected in social life, and that policy makers seek to address any remaining issues of explicit or implicit compulsion to wear high heels (e.g. at work). Further research is needed to assess second-party injury and any public safety implications. A limitation of our study is that there was no suitable quality assessment tool for the breadth of designs we included.