in risk of bias analysis and data extraction for systematic reviews and meta-analyses, they overlooked the laborious process of article screening.[1]

In attempting to address this, I used two LLMs: ChatGPT 3.5[2] and Google Bard[3] in the article screening process for a systematic review study. To conduct this systematic review, a dataset containing titles and abstracts of 1,111 articles underwent screening by two independent human reviewers. Concurrently, inclusion and exclusion criteria were defined for ChatGPT and Google Bard. Both AI models were prompted to evaluate articles, categorising them as 'Yes' (relevant), 'No' (irrelevant), or 'Maybe' (uncertain), accompanied by brief reasonings for their decisions. Following this, the models underwent training using ten samples from the dataset, with a human operator correcting their responses. Subsequently, 100 randomly chosen article titles and abstracts were manually given to the AI models for screening.

ChatGPT aligned with the human reviewers' conclusions in 76% of cases, demonstrating a notably higher agreement compared to Google Bard, which aligned in only 47% of cases. This comparative analysis underscores ChatGPT's efficiency in determining article relevance during the screening process, suggesting its potential as a valuable tool for systematic review screening in evidence-based dentistry. In contrast, Google Bard exhibited a comparatively lower degree of concordance with the human reviewers and less favourable performance, indicating limitations in its accuracy for this specific task. This suggests a necessity for further refinement or cautious consideration of its applicability in similar contexts.

In conclusion, the application of LLMs, particularly ChatGPT 3.5, shows promise in enhancing evidence-based dentistry by optimising the screening process for systematic review studies, ensuring a more comprehensive scope, minimising the chances of critical articles being overlooked and thereby enhancing the robustness and reliability of the final review. However, it is crucial to acknowledge that human intervention and oversight are imperative to prevent errors.

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Sustainable dentistry

Insufficient floss data

Sir, I write further to a recent publication in the *BDJ* entitled 'Toxic ties', which raised the issue of PFAS being present in certain varieties of dental floss.[1]

In a press release referring to K. E. Boronow *et al.*,[2] the American Dental Association remarked that the ADA Science Institute did not find the data sufficient to draw the conclusions which the research did.[3]

The study evaluated the blood samples of 178 women who self-reported on the usage of a particular brand of dental floss, to have greater PFHxS (perfluorohexanesulfonic acid) as compared to those who did not.[2]

The ADA Science Institute stated that a shortcoming of the study was the utilisation of fluorine measurements as a PTFE (polytetrafluoroethylene) marker, even though the subjects reporting floss usage were observed to have increased PFHxS levels.[3]

As PTFE is utilised in pharmaceutical, cosmetic, food and beverage applications, identifying the PTFE marker in dental floss would not establish it as the source of PFHxS in the study subjects.[3]

The ADA also noted that the retrospective study including self-reported data was likely to have other differences between the subjects reporting floss usage and otherwise.[3]

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https://doi.org/10.1038/s41415-023-6693-9

Dental materials

Our little white friend

Sir, what a delightful article by Sharif Islam[1] about the very humble 'cotton wool roll'. It is now over 50 years since I first with tweezers picked up my first cotton wool roll and as I studied one today in my surgery, I realised that the design and shape has not altered over all that time. Every aspect of dental equipment and materials have all evolved over time except our little white friend which let's face it, is still probably the cheapest item in our whole surgery. As the writer said, 'thank you so much, cotton wool roll'.

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Restorative dentistry

Losses loom larger than gains

Sir, I hasten to reassure Mr Hassall[1] that my approach to moderate wear cases such as he showed (Fig. 17 [Fig. 1])[2,3] involves informing patients about all the available options (including 'no treatment'), along with pros and cons, with their autonomy always being respected. Once those options are explained fairly, including that 'nothing in dentistry is either perfect or permanent', my patients have nearly always chosen the least destructive approach to preserve the maximum amount of their remaining healthy tooth tissue.

In the case that Mr Hassall showed, the patient lost serious amounts of their sound tooth structure (Fig. 23 [Fig. 2])[2,3] electively, to 'gain' the dubious aesthetics of over-contoured monochromatic monolithic zirconia, with periodontal inflammation as a side effect (Fig. 27 [Fig. 3]).[2,3]

For most people, the psychologic pain of losing something valuable is twice

Fig. 1 Figure 17 of the original paper. Reproduced with permission from D. Hassall, 'The use of the monolithic ceramic and direct monolithic composite in the aesthetic rehabilitation of tooth wear', *Br Dent J* 2023; **234:** 406–412[2]