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## USE OF ARTIFICIAL INTELLIGENCE IN MEDICAL PUBLISHING.

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It is just over a year since the launch of ChatGPT, a type of generative artificial intelligence (AI).<sup>1</sup> ChatGPT, a type of chatbot, uses a technology known as generative pretrained transformer large language model (LLM) which is a form of machine learning.

The LLM-based applications or chatbots like ChatGPT or Bard, Claude and Co-pilot use sources like articles, books and information in various forms available on the web and can generate output in response to a prompt in plain language. These applications have undergone rapid improvement with its increasing use and feedback from users.<sup>2</sup>

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The Brunei International Medical Journal (BIMJ) is a six monthly peer reviewed official publication of the Ministry of Health under the auspices of the Clinical Research Unit, Ministry of Health, Brunei Darussalam.

The BIMJ publishes articles ranging from original research papers, review articles, medical practice papers, special reports, audits, case reports, images of interest, education and technical/innovation papers, editorials, commentaries and letters to the Editor. Topics of interest include all subjects that relate to clinical practice and research in all branches of medicine, basic and clinical including topics related to allied health care fields. The BIMJ welcomes manuscripts from contributors, but usually solicits reviews articles and special reports. Proposals for review papers can be sent to the Managing Editor directly. Please refer to the contact information of the Editorial Office.

## Instruction to authors

### Manuscript submissions

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These include controlled trials, interventional studies, studies of screening and diagnostic tests, outcome studies, cost-effectiveness analyses, and large-scale epidemiological studies. Manuscript should include the following; introduction, materials and methods, results and conclusion. The objective should be stated clearly in the introduction. The text should not exceed 2500 words and references not more than 30.

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three relevant references should be included. Only images of high quality (at least 300dpi) will be acceptable.

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The use of generative AI in medical publishing has both positive and negative impact for authors as well as the journal reviewers and editors. Extensive literature is now available on this subject. A PubMed search on 14 December 2023 with search word 'ChatGPT' identified 1932 articles while using 'ChatGPT and medical publishing' identified 88 articles.

## **For the authors**

ChatGPT might be used to improve the quality of writing and effectively communicate infor-

mation obtained in a study. This will be of particular help for authors from non-English speaking countries.<sup>3</sup> Even before the launch of ChatGPT, AI has been used for performing data and image analysis.<sup>4</sup>

One of the concerns expressed is that with the use of ChatGPT, journals may see increasing number of substandard work submitted to them. This could be in the form of inaccurate information, biases and unintentional plagiarism.<sup>2, 5</sup>

## **For Journal Editors and Reviewers**

A major issue for the journals editors is of ethics. An AI model or ChatGPT cannot be held accountable for the contents of the manuscript and hence cannot be acknowledged as a co-author. There have been instances where ChatGPT was mentioned as a co-author.<sup>6</sup>

Another issue with the use of AI in medical writing is referred to as 'hallucinations'. This is creation of text that is far away from reality as well as inclusion of references or citations that do not exist.<sup>7, 8</sup> A careful search of these references can in some cases help identify use of AI in manuscript preparation.

Using the ZeroGPT AI detection tool, Homolak in 2023 has clearly shown that a significant number of abstracts related to Alzheimer disease available on the Scopus data-

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base were found to have used AI in writing the articles.<sup>9</sup> The author further demonstrated that none of the three AI detection tools namely, ZeroGPT, OpenAI classifier and GPT Zero could reliably detect use of AI in the sample of abstracts studied.<sup>9</sup> Thus, humans (reviewers) or even AI detection tools cannot reliably identify use of AI in medical writing.<sup>10</sup> This can be a challenge for journal editors.

On a positive side, AI tools can be used to screen manuscripts, select appropriate reviewers on the subject and verify the identity of the authors.<sup>5</sup> AI can also be used for plagiarism check and authenticity of submitted images.<sup>11</sup>

Since the launch of ChatGPT and increasing use AI, a number of journals have published their own guidelines for authors on use of AI in their submissions. Some do not allow use of AI while others insist on transparency on the part of authors.<sup>5</sup> When used, their role should be clearly stated together with the name of the tool and its version used.<sup>12</sup>

There is no doubt the journal editors including BIMJ will see more and more manuscripts submitted to their journals where AI has been used. The challenge will be to detect the use of AI and also clearly define areas where its use can be accepted.

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