



(REVIEW ARTICLE)



An analysis of artificial intelligence articles published in the American Journal of Emergency Medicine in 2024

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Abstract

Combination of emergency medicine practice and artificial intelligence (AI) has a potential to revolutionize and reshape health systems through computer-based systems. Generative artificial intelligence (AI) integrated programs such as Chat Generative Pre-trained Transformers (ChatGPT) are becoming more widespread in educational and clinical settings. AI-based tools used in emergency medicine, such as machine learning algorithms and ChatGPT, have already demonstrated their capacity to improve diagnostic accuracy and accelerate the early identification of diseases, resulting in more timely interventions and more favorable patient outcomes. As the number of researches on combination of AI with clinical settings increases, the number of publications on this field increases simultaneously. As a leading publisher in Emergency Medicine, the American Journal of Emergency Medicine (AJEM) plays a pivotal role for progression of AI studies. In this article, we aimed to reveal the support AJEM provides to the literature through AI articles.

Keywords: Artificial Intelligence; Chat GPT; Emergency Medicine; Literature

1. Introduction

Artificial intelligence (AI) is defined as the scientific study of replicating human cognitive capacities such as learning, reasoning, problem-solving, and decision-making within computing systems. Machine learning technologies along with AI has the potential to transform healthcare systems and understanding more than ever (1).

Technological development of Artificial intelligence (AI) allows us to apply it to emergency department. It provides rapid data interpretation and improves the speed and accuracy of resource allocation (2). Besides, the literature on AI tools, deep learning, machine learning, Chat Generative Pre-trained Transformers (ChatGPT) is constantly increasing.

With its broad editorial board, rapid decision time, impact factor (2.7) and ethical understanding, The American Journal of Emergency Medicine (AJEM) has not only kept the pulse of emergency medicine, but has also been a driving force for the development of emergency medicine in the World from the very beginning. Hence, it is important for the journal to focus on technological advancements to stay up to date. In this study, we investigated the AI articles published in AJEM in the last year and determine the contribution of AJEM to AI literature.

We conducted a hand-search investigation of articles involving “artificial intelligence”, “ChatGPT”, “machine learning” and “deep learning” in their headings published in the AJEM in 2024. We categorized the articles according to types (original article, review, discussion, correspondence, response), publication month, country of the first author and

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whether open access or not. Full-texts (when available) and abstracts of the articles were analysed by the researchers for relevancy to the topic.

We determined that a total of 28 articles meeting the criteria. Of these articles; 11 were research articles, 9 were correspondences, 4 were reviews, 2 were discussions, 1 was short communication and 1 was response. The month with the most publications was May (6 publications). Only 2 articles were open Access and both of them were research articles. The country with the most articles was Turkiye (n=10), followed by the USA (n=5) and Canada (n=3). See the Table for details.

Table 1 Monthly Distribution of Artificial Intelligence Articles Published in the American Journal of Emergency Medicine in 2024

Month	Article Type	Country	Open Access
January	Original article	Spain	yes
February	Discussion	US	no
	Correspondence	Turkiye	no
	Correspondence	US	no
March	Research article	Korea	no
	Research article	Turkiye	no
April	Research article	Turkiye	no
	Correspondence	Turkiye	no
May	Research article	Israel	no
	Short communication	Italy	no
	Correspondence	Canada	no
	Response	Turkiye	no
	Correspondence	China	no
	Correspondence	Canada	no
June	Research article	Turkiye	no
	Discussion	USA	no
	Correspondence	Belgium	no
July	Research article	Turkiye	no
	Review	USA	no
August	Research article	Taiwan	yes
	Review	Canada	no
September	Review	Australia	no
October	Research article	Turkiye	no
	Correspondence	Turkey	no
November	Research article	Taiwan	no
	Review	China	no
	Correspondence	Turkiye	no
December	Research article	USA	no

Our study revealed that Türkiye was the leading country in terms of number of AI articles. This fact may be linked to young and dynamic emergency medical team intertwined with technological development in Türkiye. Besides, Türkiye has the most overcrowded emergency departments and the most prolonged length of stay in emergency departments (3). So, this situation forces healthcare workers in Türkiye to take advantage of the latest technology to use their time wisely.

When the articles were investigated in details, it was determined that the majority of the articles were about application of AI in Emergency departments particularly in triage, exams and ECG interpretation. One of the most impressive aspects of AI is its ability to apply knowledge in decision-making tasks (4). Since AI is mostly used in decision-making, it is logical to focus on current issues.

According to our results, only 2 articles were open access which means they are available to all users of the journal without any costs. In order to follow developments in AI closely, increasing the number of open access articles may allow the dissemination of knowledge and experience among different clinics.

Implementation of AI to clinical practice has numerous advantages such as delivery of critical health care at a distance, education, analysis of pictures and figures, conference discussions among distant physicians and digital imaging storage. A combination of AI and telemedicine may make an impact equal to a revolution in lifestyle of emergency physicians. It allows consultation, diagnosis, documentation, and medical education become easier and cost-efficient. As the literature grows, it will be easier for different clinics and researchers to share their knowledge and experiences on AI use in ED. On the other hand, as the literature grows, the publishers and editors should be aware of fabricated articles and when evaluating articles, they must ensure that they are based on real research and investigation and are conducted within ethical rules.

2. Conclusion

Implementation of AI to clinical settings and decision-making has numerous advantages that can be applied for the benefit of patients. Number of publications in AI-based algorithms is constantly increasing. Increased number of researches in the academic world and publishers' over willingness to publish these articles brings with it the risk of increasing the number of fabricated publications. Hence, editors of journals must be cautious about the risk of fake articles. As one of the leading publishers in the field of emergency medicine, support of the AJEM for AI publications is vital for improving health care.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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