

The intersection of artificial intelligence and rehabilitation sciences: promoting originality and integrity in research

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Artificial Intelligence (AI) as a scientific discipline is an exciting opportunity for the development of a new direction in rehabilitation sciences and the improvement of patient care and research approaches [1]. Nevertheless, this integration brings a lot of problems to the issue of credibility and novelty around the processes of researching practices. Thus, this editorial is devoted to these questions, stressing the importance of a strong ethic compared to the standards for research in this shifting context.

AI technologies have started influencing Rehabilitation sciences by offering individualized intervention, patient tracking, and optimization of the results by using big data analytics [2, 3]. For example, the machine learning approach may retrieve an avalanche of data to predict rehabilitation strategies that may be effective for patients with particular characteristics [4]. Nonetheless, as more developments are created through the utilization of artificial intelligence, the likelihood of ethical concerns and questions regarding originality in research rises as well [5].

Scientific practice requires creativity and any utilization of AI needs to hold to this regulated element of advancement. Investigators should implement specific precautions to avoid plagiarism or the unauthorized borrowing of concepts through the use of AI tools [6]. This requires policies and procedures that define how the use of AI in production can be realized without compromising the research process domain [7]. AI practice must be brought into the open through mandatory reporting obligations that compel institutions to declare the use of AI throughout research processes.

It is equally important in all fields especially those which have the potential to endanger the lives of patients. As noted in various studies, the principles of ethical practice like candor, accountability, and transparency are critical in developing public confidence in science [8]. That means the rehabilitation sciences community must embrace the operational and best use of AI and ensure that researchers learn the ethics of using them and the importance of following the set standards. There is a need to ensure institutional commitment to the training of consciousness on responsible conduct of research and the use of AI [7]. Key factors touched upon here include bias that exists in the AI systems they develop and the kind of data they produce [9, 10].

To this end, researchers should be compelled to specify the strategies they have applied AI in their research; the database they have utilized; the algorithm they have employed; and the reasons as to why they selected such choices [11]. This transparency is necessary to make methods reproducible and trustworthy [12]. There was a proposal that enhancing the elements of interdisciplinary interaction would increase the yield of their work [13]. There is also the concern that the ethical standards followed should not be overlooked in the peer review processes thus the

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procedures should be changed to allow for the review of the implementation of AI [6].

Universities and research centers need to develop strong guidelines to prevent researchers from engaging in wrongdoing; this can involve developing and providing procedures for reporting research misconduct [14-16].

AI in the domain of rehabilitation sciences has the potential to take the specialty to the next level. However, this potential has to be controlled and balanced by the goals of novelty, as well as the ethical course of the research. By keeping the emphasis on ethical behavior and core principles of the rehabilitation sciences the community can embrace the attributes of AI while at the same time preserving the integrity of science. It will increase the quality of work done while also making new technologies in rehabilitation it is useful and beneficial for society.

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