Editorial Letter

After Introducing Artificial Intelligence, can Pharmacists Still Find a Job?

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Dear Editor,

Artificial intelligence (AI) was introduced for use in many fields of life with great achievements. The pharmacy profession is not different from other jobs in utilizing AI. In this regard, AI was launched in the field of drug development and manufacturing. AI decreases the time required for drug development, reducing the costs associated with drug development, increasing the returns on investment, and even decreasing costs for the end user [1]. The high efficiency and productivity of AI may possibly reduce the future dependency on human pharmacists in the field of the pharmaceutical industry [2]. In hospitals, AI was tried with positive results in regard to reducing medication errors (e.g., dosing error, drug interaction, contraindicated drug) that are much more common when a human pharmacist performs a task [2,3]. Therefore, many health institutions are now employing robots to perform tasks that were previously performed by pharmacists [3]. In a community pharmacy, AI can be implicated in diagnosing different diseases [4]. AI can educate patients about the usage of their medications and about the necessary non-pharmacological measures, such as daily guidance on diet and exercise [5]. To ensure effective patient adherence to their medication, empathic patient education is needed [6]. To enhance the action of AI in community pharmacies, some companies have worked to improve the ability of AI to detect and interact with human emotions based on the patient's voice, tone, and facial expressions. These companies developed empathic AI programs based on a dataset of thousands of participants; however, obtaining the data for all humans worldwide is impossible. Hence, and at least until recently, AI cannot precisely consider the social and cultural milieu of the patient [7,8]. That's why many researchers criticized AI because of its limited ability to perform empathic

communication with patients. Therefore, utilizing AI cannot obviate the need for pharmacists in both community and hospital pharmacies.

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REFERENCES

1. Raza MA, Aziz S, Noreen M, Saeed A, Anjum I, Ahmed M, et al. Artificial intelligence (AI) in pharmacy: An overview of innovations. *Innov Pharm*. 2022;13(2). doi: 10.24926/iip.v13i2.4839.
2. Mishra V. Artificial intelligence: the beginning of a new era in pharmacy profession. *Asian J Pharm*. 2018;12(02). doi: 10.22377/ajp.v12i02.2317.
3. Corny J, Rajkumar A, Martin O, Dode X, Lajonchère JP, Billuart O, et al. A machine learning–based clinical decision support system to identify prescriptions with a high risk of medication error. *J Am Med Inform Assoc*. 2020;27(11):1688-1694. doi: 10.1093/jamia/ocaa154.
4. Kumar Y, Koul A, Singla R, Ijaz MF. Artificial intelligence in disease diagnosis: a systematic literature review, synthesizing framework and future research agenda. *J Ambient Intell Humaniz Comput*. 2023;14(7):8459-8486. doi: 10.1007/s12652-021-03612-z.
5. Flynn A. Using artificial intelligence in health-system pharmacy practice: Finding new patterns that matter. *Am J Health Syst Pharm*. 2019;76(9):622-627. doi: 10.1093/ajhp/zxz018.
6. Hobeika E, Hallit S, Sacre H, Obeid S, Hajj A, Salameh P. Factors associated with empathy among community pharmacists in Lebanon. *J Pharm Policy Pract*. 2020;13:32. doi: 10.1186/s40545-020-00237-z.
7. Srinivasan R, González BS. The role of empathy for artificial intelligence accountability. *J Responsible Technol*. 2022;9:100021. doi: 10.1016/j.jrt.2021.100021.
8. Kerasidou A. Artificial intelligence and the ongoing need for empathy, compassion and trust in healthcare. *Bull World Health Organ*. 2020;98(4):245-250. doi: 10.2471/BLT.19.237198.