

Taking Medicine in the Right Way: Most Important but Most Neglected

Abdul Kader Mohiuddin*

Alumni, Faculty of Pharmacy, University of Dhaka

***Corresponding Author:** Abdul Kader Mohiuddin, Alumni, Faculty of Pharmacy, University of Dhaka.

Received: November 03, 2022; **Published:** March 14 2023

Patients with chronic diseases may find it particularly difficult to adhere because they frequently need to take their medications for an extended period of time, sometimes for the remainder of their lives. There are several reasons why patients may find it challenging to adhere to treatment regimens, and research has found that 30–50% of prescriptions are not taken as advised. Poor adherence may cause treatment outcomes to not be achieved, symptoms to worsen, and one's health to deteriorate.

Proper use of medicine or taking medicine in correct order is essential to cure any disease. According to the WHO, lack of adherence to treatment regimens leads to major problems among patients, mostly with chronic illnesses. "Right administration" depends on at least 5 right factors--right patient, right drug, right time, right dose and right route. "Medicines won't work if you don't take it right"--This simple fact is not understood by most people in the world, as a result still more than half of the patients with chronic diseases in the developed world do not take their medicine correctly--says WHO.

In the UK, up to 50% of medicines are not taken as intended and 60% of NHS patients failed to receive the right treatment within 18 weeks [1-3]. According to the New Zealand-based Journal of Patient Preference and Adherence, medication non-adherence alone accounts for at least 10% of hospitalizations, \$300 billion in annual medical costs, and more than 1,00,000 deaths in the US alone [4]. A recent Canadian study found that 30% of patients stop taking their medication before it is instructed, and one in four do not

fill their prescription or take less than prescribed [5]. Medication non-adherence contributes more than half of the \$500 billion total avoidable costs attributed to suboptimal medicine use globally each year [6].

A strange similarity can be found in under-developed, developing countries and the so-called developed world in the West when it comes to not taking medicine properly. More or less everyone knows that more than half of the antibiotics worldwide are sold without a doctor's prescription [7]. A recent study published by The Lancet, funded by the Bill & Melinda Gates Foundation, Wellcome Trust, states that nearly 5 million deaths worldwide in 2019 were related to bacterial resistance, which is expected to double by 2050 [8].

Globally, NSAIDs are responsible for at least 650,000 hospitalizations and 165,000 deaths annually [9]. Overuse of this class of drugs can cause kidney injury, and their side effects can be 3 to 4 times higher in kidney compromised patients [10]. Many studies have reported widespread misuse of these drugs in Dengue, Chikungunya and Covid-19 patients. Especially in Dengue or Covid-19 patients, it is more important to maintain the hydration level of the body than to bring down the fever with the pain killers. In children, the use of excess Paracetamol syrup or suppositories may cause stomach irritation, which hampers digestion and led to vomiting and ended up with hospitalization. Most hospitalizations or ICU admissions among those patients could be prevented, with few exceptions, simply by preventing dehydration at home with saline and fruit juice or simply by drinking more water.

Citation: Abdul Kader Mohiuddin. (2023). Taking Medicine in the Right Way: Most Important but Most Neglected. *Journal of Pharmacy and Drug Development* 5(1).

More or less 40% of Covid-19 patients report sleep disturbances—use of Benzodiazepines in Covid-19 patients increases the incidence of delirium, depresses the system in patients with compromised respiratory functions, and contraindicated with some anti-viral medications [11, 12].

Around 300 metric tons of morphine-type painkillers are used worldwide each year, less than 1% of which distributed to low-and-middle income countries, says the American Journal of Public Health [13]. So their misuse and related side effects are also retained by the developed world.

According to a WHO report, only half of patients in developed countries adhere to treatment guidelines for chronic diseases, which is much less in developing countries [14]. Several studies among diabetic patients in South Asian countries have shown that nearly half of patients do not adhere to their prescribed medication and are at risk of acute and long-term complications, resulting in increased hospitalization rates and medical costs [15, 16]. Three-quarters of elderly patients worldwide are unable to adhere to appropriate long-term treatment regimens—due to multiple physical complications and additional medication burden [17].

A recent study by the American Heart Association revealed that patients with high blood pressure do not follow treatment guidelines because of—(1) suboptimal dosing or prescribing the wrong medication (2) lack of insurance or lack of health care access and (3) patient failure to comply prescribed medication or other lifestyle guidelines [18].

“Medical costs are barriers to adherence to proper clinical guidelines for long-term diseases in poor countries”—although discussed in many forums but forgetfulness, confusion about the duration required for medication use and mistrust about the overall efficacy of medication are among the reasons for non-adherence to diabetes management protocols in Middle Eastern countries [19].

Epilepsy is still seen in most countries of the world as an evil spirit—although two-thirds of patients can become seizure-free with adequate treatment, poor adherence to proper guidelines is a major problem for effective recovery [20].

Several identified reasons for non-adherence to treatment guidelines for chronic diseases:

1. **Patient’s socio-economic status:** low health literacy, lack of family or social support network, unstable living or homelessness, financial insecurity

2. **Treatment-related:** complexity and duration of treatment procedures, frequent changes in medication regimen, lack of immediate results, real or perceived unpleasant side effects, interference with lifestyle
3. **Health system-related:** high treatment costs, limited health system for patient education and follow-up, doctor-patient relationship, patient trust in health care, long waits, lack of patient information materials
4. **Patient-related:** visual-hearing and cognitive impairment, mobility and dexterity, psychological and behavioral factors, perceived risk of disease susceptibility, superstitions and stigmatization by disease, etc. [21]

Finally, it can be said that patients’ knowledge and perception of the disease is the main driving force in determining their adherence to the treatment regimen. Health care providers should explore providing more effective health-education to identify patients’ attitudes toward disease, trust in medications, psychological stressors, and increase medication adherence.

References

1. Barnett, N. L. (2013). Medication adherence: Where are we now? A UK perspective. *European Journal of Hospital Pharmacy*, 21(3): 181–184.
2. Guardian News and Media. (2022, September 8). Record 6.8M people waiting for hospital treatment in England. *The Guardian*. Retrieved November 2, 2022
3. Luke Andrews Health Reporter for Mailonline. (2022, March 7). 60% of NHS patients have waited 18 weeks for treatment at worst-performing hospital trust. *Daily Mail Online*. Retrieved November 2, 2022.
4. Cutler RL, Torres-Robles A, Wiecek E, Drake B, Van der Linden N, Benrimoj SI, Garcia-Cardenas V. (2019). Pharmacist-led medication non-adherence intervention: reducing the economic burden placed on the Australian health care system. *Patient Prefer Adherence*. 13:853-862.
5. Law MR, Cheng L, Dhalla IA, Heard D, Morgan SG. (2012). The effect of cost on adherence to prescription medications in Canada. *CMAJ*. 184(3): 297-302.
6. Furniss D, Barber N, Lyons I, Eliasson L, Blandford A. (2014). Unintentional non-adherence: can a spoon full of resilience help the medicine go down? *BMJ Qual Saf*. 23(2): 95-8.

7. Bahta M, Tesfamariam S, Weldemariam DG, Yemane H, Tesfamariam EH, Alem T, Russom M. (2020). Dispensing of antibiotics without prescription and associated factors in drug retail outlets of Eritrea: A simulated client method. *PLoS One*. 15(1): e0228013.
8. Antimicrobial Resistance Collaborators. (2022). Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. *Lancet*. 399(10325): 629-655.
9. Kasciūškevičiūtė S, Gumbrevičius G, Vendzelytė A, Ščiupokas A, Petrikonis K, Kaduševičius E. (2018). Impact of the World Health Organization Pain Treatment Guidelines and the European Medicines Agency Safety Recommendations on Non-steroidal Anti-Inflammatory Drug Use in Lithuania: An Observational Study. *Medicina (Kaunas)*. 54(2): 30.
10. Lucas GNC, Leitão ACC, Alencar RL, Xavier RMF, Daher EF, Silva Junior GBD. (2019). Pathophysiological aspects of nephropathy caused by non-steroidal anti-inflammatory drugs. *J Bras Nefrol*. 41(1): 124-130.
11. Jahrami H, BaHammam AS, Bragazzi NL, Saif Z, Faris M, Vitiello MV. (2021). Sleep problems during the COVID-19 pandemic by population: a systematic review and meta-analysis. *J Clin Sleep Med*. 17(2): 299-313.
12. Ostuzzi G, Papola D, Gastaldon C, Schoretsanitis G, Bertolini F, Amaddeo F, Cuomo A, Emsley R, Fagiolini A, Imperadore G, Kishimoto T, Michencigh G, Nosé M, Purgato M, Dursun S, Stubbs B, Taylor D, Thornicroft G, Ward PB, Hiemke C, Correll CU, Barbui C. (2020). Safety of psychotropic medications in people with COVID-19: evidence review and practical recommendations. *BMC Med*. 18(1): 215.
13. Bhadelia A, De Lima L, Arreola-Ornelas H, Kwete XJ, Rodriguez NM, Knaul FM. (2019). Solving the Global Crisis in Access to Pain Relief: Lessons From Country Actions. *Am J Public Health*. 109(1): 58-60.
14. Mathes T, Pieper D, Antoine SL, Eikermann M. (2012). 50% adherence of patients suffering chronic conditions--where is the evidence? *Ger Med Sci*. 10: Doc16.
15. Chong E, Wang H, King-Shier KM, Quan H, Rabi DM, Khan NA. (2014). Prescribing patterns and adherence to medication among South-Asian, Chinese and white people with Type 2 diabetes mellitus: a population-based cohort study. *Diabet Med*.
16. Sohal T, Sohal P, King-Shier KM, Khan NA. (2015). Barriers and Facilitators for Type-2 Diabetes Management in South Asians: A Systematic Review. *PLoS One*. 10(9): e0136202.
17. Félix IB, Henriques A. (2021). Medication adherence and related determinants in older people with multimorbidity: a cross-sectional study. *Nurs Forum*. 56: 834-843.
18. Choudhry NK, Kronish IM, Vongpatanasin W, Ferdinand KC, Pavlik VN, Egan BM, Schoenthaler A, Houston Miller N, Hyman DJ. (2022). American Heart Association Council on Hypertension; Council on Cardiovascular and Stroke Nursing; and Council on Clinical Cardiology. Medication Adherence and Blood Pressure Control: A Scientific Statement From the American Heart Association. *Hypertension*. 79(1): e1-e14.
19. Alsairafi ZK, Taylor KM, Smith FJ, Alattar AT. (2016). Patients' management of type 2 diabetes in Middle Eastern countries: review of studies. *Patient Prefer Adherence*. 10: 1051-62.
20. Lossius, M. I., Alftstad, K. Å., Aaberg, K. M., & Nakken, K. O. (2017). Seponering av Antiepileptika Ved anfallsfrihet – når og hvordan? *Tidsskrift for Den Norske Legeforening*, 137(6): 451-454.
21. Jin J, Sklar GE, Min Sen Oh V, Chuen Li S. (2008). Factors affecting therapeutic compliance: A review from the patient's perspective. *Ther Clin Risk Manag*. 4(1): 269-86.

Benefits of Publishing with EScientific Publishers:

- ❖ Swift Peer Review
- ❖ Freely accessible online immediately upon publication
- ❖ Global archiving of articles
- ❖ Authors Retain Copyrights
- ❖ Visibility through different online platforms

Submit your Paper at:

<https://escientificpublishers.com/submission>