



# Low Health Literacy: Treacherous Foe of Patient Compliance in Developed Countries

**\*Corresponding Author(s): Abdul Kader Mohiuddin**

Alumni, Faculty of Pharmacy, Dhaka University.

Tel: +01706221174; Email: trymohi@yahoo.co.in

Received: Nov 30, 2022

Accepted: Dec 15, 2022

Published Online: Dec 19, 2022

Journal: Annals of Epidemiology and Public health

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

Copyright: © Mohiuddin AK (2022). *This Article is distributed under the terms of Creative Commons Attribution 4.0 International License*

**Keywords:** Low health literacy; Patient compliance; Medication non-adherence; Prevention of healthcare cost; Avoiding hospitalization

## Editorial

Health literacy enhances a population's self-care capacity and helps to reduce health inequalities. Low health literacy (LHL) is associated mostly with mature patients with chronic health conditions, who have limited education, not necessarily from a lower income group, and those who cherish superstitions and stigma inside their preset narrow mind that prevents them from gathering some relevant information about health or health system access, diseases, and drugs from their surroundings, with a few exceptional cases. Also, being generally literate does not automatically make one to be health literate. LHL is not uncommon among patients with a high level of education or with well-off patients [1].

The cost of illiteracy to the global economy is estimated at \$1.19 trillion [2] but LHL alone costs the US economy more or less \$200 billion every year [3]. Only 12% Americans have adequate health literacy and according to the US Centers for Disease Control and Prevention (CDC), improving health literacy could prevent nearly 1 million hospital visits and save over \$25 billion a year [4]. LHL influences a lot of patients' treatment guideline compliance or more directly medication adherence leads to poorer health outcomes, higher healthcare expenditures, increased hospitalizations, and even higher mortality rates in patients with chronic diseases [5]. Individuals with poor health literacy often incur higher medical costs. Medication non-adherence contributes around 60% of the \$500 billion total avoidable costs attributed to suboptimal medicine use globally each year [6].



**Cite this article:** Mohiuddin AK. Low Health Literacy: Treacherous Foe of Patient Compliance in Developed Countries. *Annals of Epidemiology and Public Health*. 2022; 5(2): 1097.

Evidence shows that LHL is significantly associated with economic ramifications at the individual, employer, and healthcare system levels. But it is common to both developed and underdeveloped countries around the world and socio-economic conditions are not at all the sole factor of LHL. Surprisingly, close to 40% of the US and the UK adults have LHL [7,8], which is around 60% in Canada [9], Australia [10], UAE's adult population [11], and the European older population [12]. Even China, home of the world's greatest scientists and inventors issued "Health China 2030" in 2016, planning the rate of national health literacy is aimed to increase to 30% by 2030 [13]. The GDP per capita of these countries ranges from \$11,800 to \$62,200, based on Trading Economics-2022 data.

Many studies reveal that patients from high-income countries are not adequately adherent to medications as they are prescribed. 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 [14]. After World War II, Taiwan faced severe poverty which is now the 8th largest economy in Asia and also home of T2DM patients with 82% health literacy [15].

Canada is the top most educated country with a GDP close to 2 trillion and a GDP per capita of more than \$44,000--a recent survey granted by the Royal University Hospital Foundation in two urban tertiary care hospitals in Saskatoon shows that around 50% of the patients admitted to the general internal medicine unit had LHL. Moreover, patients with LHL, but with high education, had a higher probability of emergency department re-visits [16].

A cross-sectional study of 259 school leaders in Hong Kong carried out during the COVID-19 pandemic between April 2021 and February 2022 shows that more than 50% of participants had LHL and their LHL was strongly associated with a negative attitude about vaccination, low information, confusion about COVID-19-related information and secondary symptoms of burnouts [3].

In the USA, a cohort study by Vanderbilt Center for Health Services Research (Nashville, Tennessee) of over 46,000 hospitalized patients showed that hypertension was more common in people with LHL. Also, authors of Hamburg Diabetes Prevention Survey, a population-based cross-sectional study in Germany concluded that LHL is an important factor in the 3 conditions of metabolic syndrome--obesity, diabetes, and hypertension [17].

Finally, it can be said that LHL is associated with patient non-compliance but it warrants further studies to judge whether it is the top-most reason for the same or not, as many studies conducted in developed countries revealing a high prevalence of cost-related patient non-adherence. Nevertheless, it can be said beyond reason health literacy provides a benefit in addressing the health needs of even the most disadvantaged and marginalized communities. To improve adherence, patients need to clearly and appropriately understand health information related to their specific illness or disease. This understanding may be essential to helping patients generate the motivation, beliefs, and appropriate health behaviors needed to improve overall adherence behaviors. LHL is a curse, it has to be minimized. All healthcare providers, stakeholders and even government and community authorities should work on it.

## Declaration

The study states an impartial judgment, the author is not biased, supports differences of opinion, logic and believes that facts can be changed with time.

**Financial disclosure or funding:** N/A

## Conflict of interest

The author declares that he has no competing interests.

**Informed consent:** N/A

## References

1. van der Heide I, Wang J, Droomers M, Spreeuwenberg P, Rademakers J, et al. The relationship between health, education, and health literacy: results from the Dutch Adult Literacy and Life Skills Survey. *Journal of health communication*. 2013; 18: 172-184.
2. Anthony C, Kay A, Steward J. World Literacy Foundation Report: The Economic & Social Cost of Illiteracy. World Literacy Foundation.
3. Rabia S, Shoker M, Chu LM, Frehlick R, Ward H, et al. Impact of low health literacy on patients' health outcomes: a multicenter cohort study. *BMC health services research*. 2022; 22: 1148.
4. Talking Points about Health Literacy. Centers for Disease Control and Prevention, Centers for Disease Control and Prevention. 2021.
5. Mohiuddin AK. Chapter 11. The Enigma of Patient Behavior. The Role of the Pharmacist in Patient Care: Achieving High Quality, Cost-Effective and Accessible Healthcare Through a Team-Based, Patient-Centered Approach, Universal-Publishers. 2020; 189-210.
6. Kader MA. Medication Adherence: Fact or Fictions?" *Open Journal of Pharmaceutical Science and Research*. 2022; 4: 6-10.
7. Emerson MR, Buckland S, Lawlor MA, Dinkel D, Johnson DJ, et al. Addressing and evaluating health literacy in mHealth: a scoping review. *MHealth*. 2022; 8: 33.
8. Local Action on Health Inequalities: Improving Health Literacy to Reduce Health Inequalities/ Practice resource summary: September 2015." *Public Health England, UCL Institute of Health Equity*, 2015.
9. Kyabaggu R, Marshall D, Ebuwei P, Ikenyei U. Health Literacy, Equity, and Communication in the COVID-19 Era of Misinformation: Emergence of Health Information Professionals in Infodemic Management. *JMIR infodemiology*. 2022; 2: e35014.
10. Ellender CM, Boyde M, Scott IA. Health literacy assessment in the clinic: benefits, pitfalls and practicalities. *Australian journal of primary health*. 2022; 28: 365-370.
11. Ibrahim H, Nair SC. Comment on Health Literacy: The Common Denominator of Healthcare Progress. *The patient*. 2021; 14: 869-870.
12. Shebehe J, Montgomery S, Hansson A, Hiyoshi A. Low health literacy and multiple medications in community-dwelling older adults: A population-based cohort study. *BMJ open*. 2022; 12: 2 e055117.
13. Yuanyuan L, Lv X, Liang J, Dong H, Chen C. The development and progress of health literacy in China. *Frontiers in public health*. 2022; 10: 1034907.
14. Mohiuddin AK. Taking Medicine in the Right Way: Most Important but Most Neglected. *Cases*. 2022; 1: 1-3.

- 
15. Božica I, Placento H, Farčić N, Baligač ML, Mikšić S, et al. Association between Health Literacy and Prevalence of Obesity, Arterial Hypertension, and Diabetes Mellitus. *International journal of environmental research and public health*. 2022; 19: 9002.
  16. Lau SSS, Shum ENY, Man JOT, Cheung ETH, Amoah PA, et al. COVID-19-Related Health Literacy of School Leaders in Hong Kong: A Cross-Sectional Study. *International journal of environmental research and public health*. 2022; 19: 12790.
  17. Daniel T, Schäfer I, Lühmann D, Fertmann R, Steinberg T, et al. The Link Between Health Literacy and Three Conditions of Metabolic Syndrome: Obesity, Diabetes and Hypertension." *Diabetes, metabolic syndrome and obesity : targets and therapy*. 2022; 15: 1639-1650.