Advantages of Disability-Adjusted Life Years to Measure the Burden of COVID-19

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Dear Editor,

In December 2019, pneumonia of unknown origin was reported in Wuhan, China. Scientists later identified it as SARS-CoV-2, and the new name nCoV-2019 provided information about it (1), causing many symptoms in affected people (2). The rapid spread of the virus and the lack of definitive treatment caused countries to face large numbers of infected people and created social, economic, and health challenges (3, 4). The form of the epidemic has not been the same in different countries (5). Quantifying the impact of COVID-19 relative to other causes of disease and injury is essential in every country, and understanding and quantifying the combined impact of mortality and morbidity from a disease is a key step in standardizing comparisons across countries (6).

In this regard, disability-adjusted life years (DALY) is the best health measure to determine the effectiveness of social and systematic interventions. It is introduced by the World Bank and the World Health Organization to quantify the burden of diseases and injuries in studying the global burden of disease. This index, which is a combination of years of life with disability and years lost due to premature death, shows the severity of the disease on a scale of 0 (complete health) to 1 (death) (7). It is widely used to calculate the economic effects of alternative interventions in the health sector. Many international studies have shown the cost of averting disease or injury each year using a variety of interventions. Health managers can determine how many DALY will be averted by reducing health problems in their community with current resources (7).

As of now, COVID-19 has not been included in the global burden of disease (GBD) study (8), but some studies have estimated DALY attributable to COVID-19 (9-11). The DALY estimate for epidemics such as COVID-19 provides policymakers with comprehensive and comparable information regarding direct and indirect consequences to make informed decisions. Since the DALY is a concise index and shows health problems from a macro perspective for societies, it is imperative and popular among other indicators. It is one of the few indicators to measure the size of health problems that cover disease, death, and recovery. The basis of this feature and reputation is that the index reduces the community’s health problems and provides the ability to sort them. It transforms all the diverse and heterogeneous health problems into one unit, that is, lost time, and provides the ability to compare them all with each other and with cost, profit, and economic loss.

Mortality from COVID-19 occurs in different age groups. On the other hand, in many cases, COVID-19 patients have long-term health complications and show more morbidity than non-COVID-19 patients. Thus, DALY provides a more comprehensive picture of the COVID-19 burden and the effects of interventions such as mass vaccination in communities than other tools. Therefore, this estimate has potential implications for understanding resource allocation priorities for health interventions (11). It can be said that calculating the burden of diseases such as COVID-19 with DALY provides areas for prioritization, effective investments, quantifying various dimensions of social development, determining current and future intervention strategies for prevention, treatment, and rehabilitation for researchers, policymakers, and commu-
nity health managers.

Footnotes

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