Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Low-value medical care in the pandemic—is this what the doctor ordered?

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The humanitarian crisis India faces in the second wave of COVID-19—the rapid surge of cases, the collapsing health system, and the death and despair—are being documented in real time. However, the large-scale practice of low-to-minimal value care[1] and its consequences have escaped notice.

A majority of those with COVID-19 disease have mild-to-moderate symptoms and are managed by qualified doctors out of hospital. A typical prescription for COVID-19 in India includes azithromycin, doxycycline, ivermectin, hydroxychloroquine, vitamin C, vitamin D, zinc, acetylcysteine, and inhaled budesonide or dexamethasone.[2,3] The antiviral favipiravir became the top selling drug in India in April, 2021,[4] despite not being recommended for COVID-19 by any major guidelines. Anticoagulants such as rivaroxaban are prescribed in outpatient settings, even for patients without increased thrombotic risk, against the recommendations of most international expert panels. Broad-spectrum antibiotics are added under the pretext of treating secondary infections.

In India, a battery of diagnostic tests is also being conducted for patients with COVID-19—blood counts, blood sugar, kidney and liver function tests, D-dimer, interleukin-6, procalcitonin, C-reactive protein, ferritin, and lactate dehydrogenase. Diagnostic laboratories are offering COVID-19 test packages.[5] These tests are repeated and treatment is escalated on the basis of small changes in the results of these tests. Guidelines do not recommend these tests for patients with mild-to-moderate COVID-19 disease because they do not inform management decisions. Determination of change in disease severity should be made on the basis of clinical parameters and the added value of these tests in making treatment decisions, predicting response to therapy, or prognostication is not supported by evidence.

High-resolution CT scans of the chest are ordered routinely and repeated frequently. Although CT scans can help with diagnosis and indicate disease severity,[6,7] there is no evidence supporting their use for making treatment decisions for patients being treated at home.

Unlike in 2020, when little was known about COVID-19, a lot is now known about the disease. The certainty of evidence varies, but for important clinical, patient, and health systems outcomes (mortality, need for mechanical ventilation, need for hospital admission, and serious adverse events) ivermectin, hydroxychloroquine, vitamin C, vitamin D, zinc, convalescent plasma, and corticosteroids (in patients with non-severe COVID-19) have been shown to offer no real benefit.[8,9] The role of antibiotics in patients in self-isolation with mild-to-moderate disease and at little risk of secondary infection is also uncertain. The contribution of indiscriminate antibiotic use to antimicrobial resistance in India has long been discussed.

The complexity of clinical decision making notwithstanding, prescribing low-value therapy that does not provide clinical benefit is never desirable,[1] even less so in the context of a pandemic when resources are scarce. For a population that meets treatment costs out of pocket,[10] this is disastrous. It adds to public expenditure—draining precious public money without offering meaningful benefits. Private insurance packages come with a cap and do not cover outpatient investigation or treatment costs. Irrespective of the source of funding, spending on care with no or little value implies monies not being available for effective and proven interventions.

Such a poly-prescription of the aforementioned drugs has not been done before. How these drugs interact with each other (and with other drugs prescribed for pre-existing conditions) is unknown. Judging whether a new symptom is due to progression of COVID-19, an adverse drug reaction, or a new complication becomes difficult. Given that in India, patients and families have to procure medicines on their own, an inability to either find or afford any of the prescribed drugs (supply-chain logistics problems for even commonly used drugs are quite likely in pandemics) generates anxiety and guilt among caregivers.

Academic institutions and professional medical societies should reflect on their roles. A range of recommendations and treatment algorithms from norm-defining medical institutions and societies are circulating on social media. These institutions are notable by their failure to share the evidence that informs these recommendations, discuss nuances of

implementation, or present conflicts of interests of those involved in developing these recommendations. These recommendations give fillip to low-value care and provide medical practitioners with a justification to use them. Professional medical societies have been conspicuous by their silence. One state government in India has purchased 1 million doses of ivermectin[11] for mass prophylaxis. While millions of Indians struggle to stay alive and healthy and avoid going into poverty during the COVID-19 pandemic, such irresponsible behaviour has enabled others to engage in pandemic profiteering.

These problems did not arise during the COVID-19 pandemic, but are the product of 70 years of a lack of accountability and elitism around the practice of non-evidence-informed medicine. There is an urgent need for democratising evidence-informed medicine in India. Clinical guidelines should be based on evidence, responsive to local resources, and include a broad range of stakeholders, including patients and their caregivers.[12] Because medical evidence evolves rapidly, especially during a pandemic, guidelines should also be adaptive in nature, and disseminated in a transparent manner using appropriate tools. We hope this current crisis acts as a fillip for the medical community to undertake these reforms. That would probably be the only silver lining at the end of this very long and dark COVID-19 tunnel!

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