EFI Bulletin

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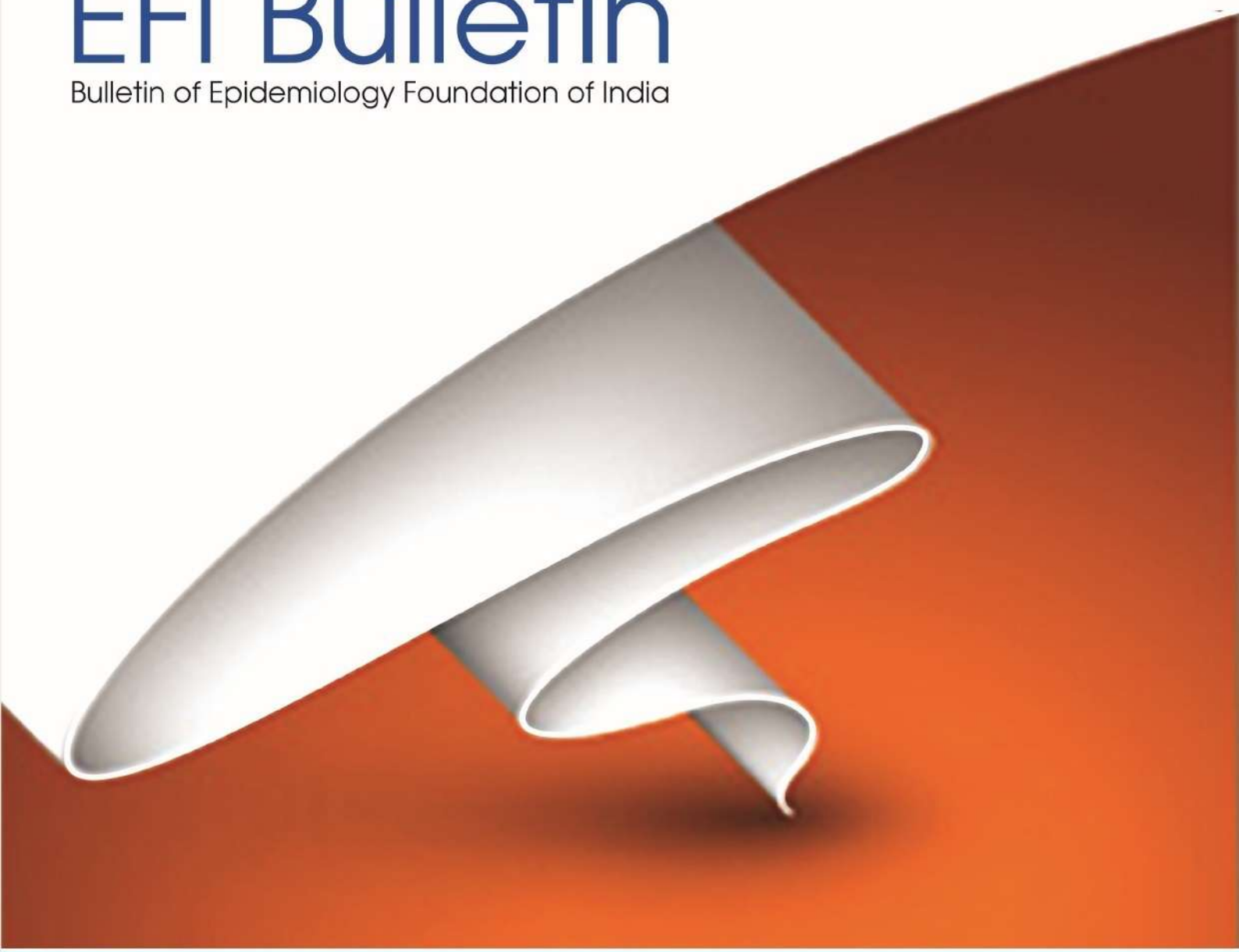
EFI Bulletin

Bulletin of Epidemiology Foundation of India



Epidemiology Foundation of India

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EFI Bulletin

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In this issue

Featured Articles

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To identify and promote areas of cooperation and understanding among researchers and like-minded organizations, individuals, scientific networks and other Governmental and Non-Governmental, National & International agencies which are contributing towards realizing the objectives of the Foundation.

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Editorial Board

Message from President and Secretary

Dear Colleague,

Greetings from Epidemiology Foundation of India.

The Epidemiology Foundation of India (EFI) has been established to promote, epidemiological thinking amongst the young scientists and researchers. This is being achieved by promoting manpower development in the field of epidemiology. The Foundation organizes training courses / seminars / workshops / conferences in the field of epidemiology from time to time.

The EFI membership is available to those interested in epidemiology and can be availed by log in to its website www.efi.org.in and completing the necessary steps for the same. To encourage young researchers to join EFI, complimentary membership is also available for Early Career Researchers. Those joining EFI are provided with EFI Membership Certificate and EFI ID through email. The EFI is also in official relationship with International Epidemiological Association (IEA) and EFI members can avail IEA membership at half of its rate.

I welcome you to this forum of EFI and encourage using its resources available on its website.

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From the Editor

The strength of young early career memberships and their active participation in a promising organisation like EFI must ensure a successful journey towards its set goals and the objectives. Whereas, the participation of budding scientists in EFICONs, as reflected through their enthusiasm in oral/ poster presentations is highly appreciated, the hesitations in submission of even 'preliminary-draft' articles to the Bulletin continues despite repeated encouragements. It is observed and understood that a variety of benefits of publishing an original article in a reputed indexed journal are far better recognised by them considering career promotions. But we would like to clarify the fact that such 'preliminary-draft' articles, if submitted to the Bulletin for a peer review, are always eligible to be published in reputed journals of their choice just by bringing certain improvements with refinements per the feedback received. In view of the above understanding of having an open peer review we would like to encourage the young enthusiastic readers to contribute preliminary draft articles to the Bulletin.

However, the Governing Body of EFI, considering the above hesitations, is all set-out to support the initiation of a journal of its own at the earliest. Encouraged with this promised support this time we have quickly framed an editorial board. I am personally grateful to my colleagues who volunteered to be part of the initial editorial team to lead us further. It would certainly require periodic strengthening with an objective to gradually evolve the ongoing bulletin into a journal of EFI (to be titled suitably?). Hopefully soon we should be running simultaneously both, a Bulletin and a Journal of EFI.

The present contents of the Bulletin are more in favour of a Journal rather than doing justice to a News-Letter or Bulletin. Per the norms or standards a Bulletin should have 80% information on the issues related to activities of its own members and events already organised by them or set to take place at local, regional and state or national levels. Retrospectively looking at the contents of the four issues already published last year, if the first issue had a mix of 40% vs 60% the last issue had just 20% vs 80%. These indications are good for an upcoming journal but not for a periodical to be called Bulletin of an organisation to the tune of EFI. Therefore, we once again invite interests from life members of EFI to manage member news including their achievements; national/ international news and events; Separately the editorial board members shall make efforts to reach out to the members for the purpose.

The first issue of 2022 Bulletin-Vol 3 is enriched with an educative-update under the President's Corner; a time relevant editorial on Tuberculosis and COVID-19 by Prof Ashok K Bhardwaj, followed by interesting write-ups by Prof Surya Kant, Dr Rajiv Jain and Prof Ekta Gupta under the communicable diseases column. We very sincerely appreciate and respect all the contributors for bringing divergent but qualitatively rich contents to this Bulletin.

Ajit Sahai

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President's Corner

Caveats in interpretation of a non-inferiority trial

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Traditionally, randomized clinical trials (RCTs) have aimed to determine whether an experimental treatment is superior to standard treatment or placebo in improving effectiveness outcomes, for which they are the gold standard. Recently, there has been a plethora of trials that offer novel experimental treatments not on the basis of superiority in effectiveness outcomes, but instead because they reduce harms or other treatment burdens relative to standard treatment. These 'noninferiority clinical trials' have become a major tool for the evaluation of drugs, devices, biologics, and other medical treatments. The number of randomized trials assessing noninferiority increased six times in a decade — from just under 100 indexed in Medline in 2005, to 600 in 2015 (1).

Assessing noninferiority in a trial is more complex than assessing superiority, in both the design and analysis phases. The null hypothesis in a noninferiority study states that the primary endpoint for the experimental treatment is worse than that for the positive control treatment by a prespecified margin, and rejection of the null hypothesis at a prespecified level of statistical significance is used to support a claim that permits a conclusion of noninferiority. Thus, in this context, the aim is to prove that the 'new' treatment is 'not too much worse' (i.e., it is 'acceptably worse') than current, standard treatment. In addition, the new treatment has other advantages. These advantages may be in the form of a better safety profile, less cost, more convenience in administering, less invasiveness, fewer pills, more compliance or shorter treatment duration.

It follows that a key concern in interpreting noninferiority trials is the choice of an acceptable threshold of "not much worse." This noninferiority threshold (the dashed line labeled Δ in Figures 1 and 2) is the maximum allowable excess of outcome events that arises from the experimental treatment compared with the standard treatment. If the confidence interval for the study results excludes the prespecified margin (i.e., the noninferiority margin, also called "delta"), then the conclusion is made that the test treatment is noninferior to the active control (2). The first two issues in interpretation of a non-inferiority trial pertain to the non-inferiority margin.

1. **The non-inferiority margin must be pre-specified.**
   Since the conclusion of non-inferiority relies on the margin, this must be defined during the design phase (3). Trialists must pre-specify the margin in the trial protocol. If this is not done before the conduct of the trial, researchers may be tempted to shift the margin according to the results of the trial, in order to successfully conclude non-inferiority (figures 3 and 4).
2. **Setting of non-inferiority threshold**.
   A critical issue is how to set the non-inferiority threshold (4). There is no universally accepted method for defining an appropriate threshold. Being mostly a value judgement, what would seem as sound reasoning for one observer, may be unreasonable to another. Nonetheless, there are two methods to ascertain the threshold: clinical and statistical. What is recommended is that guidance on setting the threshold should be based on what patients, if asked, may deem as non-inferior. Some researchers attempt to ascertain this through surveys, interviews, etc. The other method is statistical, which is also included in the FDA guidance document (5).
3. **Preserving the effect of the active control.**
   A crucial issue in non-inferiority trials deals with the reference treatment or active control. Imagine a trial that attempts to study the effect of a new antimicrobial drug for MRSA. Now, in a situation where patients become resistant to standard antibiotics for MRSA, the conclusion of non-inferiority will be easy to make but will be erroneous. Thus, in order to guard against unwarranted conclusions of non-inferiority, the user must check the results for the reference treatment arm. Participants, endpoints, and other important aspects of the trial should be similar to those used in the trials used to demonstrate the effectiveness of the active control over placebo.
   In order to further delineate this issue, imagine a trial with three arms: new treatment, reference treatment and placebo. In such a situation, if both the new treatment and reference treatment fail to show superiority over placebo, this obviously points towards a trial defect. One may state clearly that the trial is not 'sensitive enough' to detect a signal for even the reference treatment; the term for this is 'assay sensitivity' (1). In a non-inferiority trial, where there is no placebo but just two arms (new and reference treatment), previous studies are considered for establishing that reference treatment has

efficacy. However, this leaves room for inadvertent mistakes and manipulations. How to show non-inferiority, even if not true? The following methods are often leveraged for the reference treatment arm: enroll less responsive or less compliant population, administer decreased intensity or dose of standard treatment or keep the follow up too short. In all these situations, the effect of reference treatment will be suboptimal and lead to fallacious conclusion of non-inferiority.

4. **Intention to treat analysis may be anti-conservative.**

In a superiority trial, the credible analysis is an intention to treat analysis, where all participants are analyzed keeping them in the group to which randomized, irrespective of whether they took the treatment or now. This is crucial in order to preserve that prognostic balance that randomization created in the start of the trial.

However, consider a non-inferiority trial in which many of the participants in the reference treatment arm did not take the treatment. In such a scenario, the effect of the reference treatment will not be picked up, and it will be easy to demonstrate non-inferiority with an intention-to-treat analysis. Thus, while intention to treat analysis may be conservative in the context of a superiority trial, for a non-inferiority trial it may be anti-conservative. Both per-protocol and intention to treat analysis must be carried out in this case.

While the points mentioned here are some of the unique interpretational challenges that non-inferiority trials present, they are further rife with issues that threaten misguided conclusions (7). A detailed discussion of other issues, such as constancy and execution, can be found elsewhere (1). Seeing the epidemic of such trials in medicine, it would be useful to guard against unwarranted conclusions from this trial design.

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Figure 1

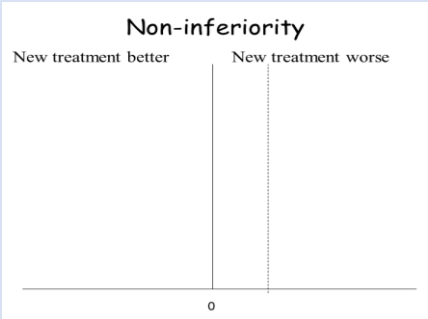


Figure 2

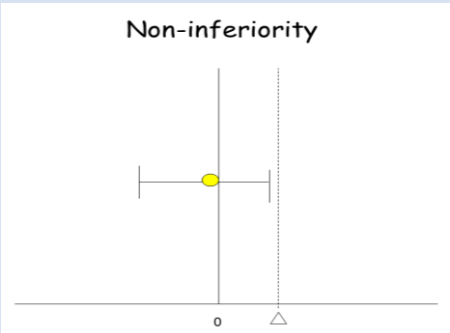
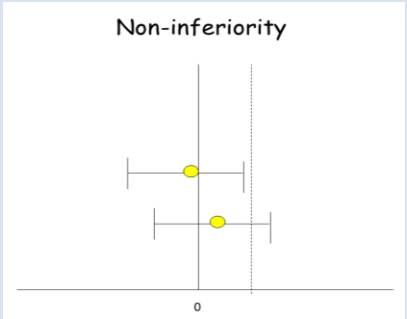


Figure 3



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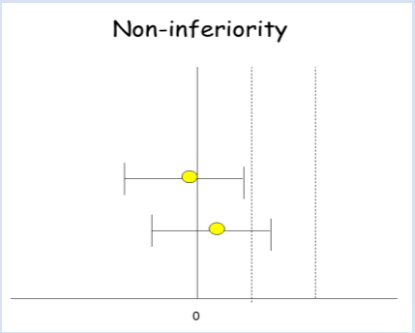

Editorial

Tuberculosis and COVID-19

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The ongoing pandemic of SARS COVID-19 disease reminded the world that infections due to human-animal interaction will keep on producing more and more pandemics in future. No health system is perfect; public health in form of preparedness and prevention is the only key. It is also obvious that all other diseases are ignored when one dominates.

In 2017, End TB strategy was rolled out at WHO global ministerial conference with a goal to end TB by 2035. The Global TB report 2021 reviewed the progress towards 2020 milestones of End TB strategy. Though all high TB burden countries were not on track to reach the milestone, it still showed that various rates were falling. Cumulative incidence reduction from 2015 to 2019 was 9% and annual number of TB deaths was falling (14% reduction).[1]

India in its annual TB report of 2020 reported that notification rate of TB increased by 12% from 2018 to 2019 and 90% notification was that of new cases. The reported treatment success rate of 2018 was 80%. Data entry delay has also been reported to reduce for TB notification from 70 to 20 days from 2017 to 2019. Till 2019, India was diligently working towards achieving over ambitious targets to end TB by 2025.[2]

In early 2020, WHO declared that we are facing public health emergency or pandemic of COVID-19. All health services devoted to all the existing diseases in a country were diverted in managing COVID-19. Not only health services, everything was on stand still with lockdown in many countries. Suddenly no other ailment was of importance more than COVID-19. The Global TB report of 2021 confessed of large global drop in TB case notification in 2020. The largest drop was seen in Southeast Asia region of WHO. India contributed to 41% of global drop between 2019 and 2020.[3] Reason was evident, with health systems diverted towards dealing with pandemic and restrictions of lockdown reducing access and ability to seek care. The most crucial yet least addressed factor was stigma attached to similarities in symptoms related to TB and COVID-19. Decrease in newly diagnosed infection rate led to increase in deaths from TB in 2020. However, the White plague of mankind which was once king of causes of death from single infectious agent became the second leading cause of death after COVID-19 from single infectious agent. India accounted for 38% of TB deaths among HIV negative people. The annual TB report 2021 of India accepted that the national lockdown imposed in March and April 2020 resulted in 38% reductions in notifications. Regaining the lost momentum till 2022 is on slow pace. Programme has introduced bi-directional screening of TB and COVID-19.[4]

The exemplary success of management of pandemic in country paves way for the end of other infectious diseases. Dedicated infectious disease hospitals in country for preparedness and response of pandemic will play a significant role in TB management. The symptoms for COVID-19 and TB being similar hence the covid appropriate behaviour will act as a preventive tool against respiratory illness like TB.

Contact tracing during pandemic are excellent examples for active case finding for TB. The real time data availability on dashboards dedicated to COVID-19 diseases proved that health system has the ability and acceptance to the online data entry for other diseases especially that of TB (Nikshay platform).

The adoption of technology and online platform for trainings, meetings, teleconsultations have paved more ways for National TB Elimination programme. These are very optimistic lessons from the pandemic but come with the statutory warning. One must not forget that the whole health force and allied forces were fighting the war against single disease with all other services on standby. Hence the same may not be applicable when all services are resumed.

The strategic use of resources and services under the programme will let us rise again and reach to the goal of TB free India by 2025.

TB Harega Desh Jeetega

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COMMUNICABLE DISEASES

Epidemiology, different variants including Omicron, and preventive measures of COVID-19

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SUMMARY
COVID-19 pandemic has caused significant morbidity and mortality over the last three years and continues to wreak havoc on humanity. Following the first and second COVID-19 waves, the third wave has emerged with new variants, a high transmission rate, and reduced treatment and vaccine efficacy. The primary treatment strategy, as well as symptomatic and supportive treatments, remain unchanged. In the fight against COVID-19, oxygen therapy, use of steroids, antiviral drugs, and some repurposed drugs viz ivermectin, as well as newer drugs like monoclonal antibodies, are primal. Ivermectin has been a game changer in many Indian states, and it has been included in their new treatment protocol. Vaccination, which include additional booster/precautionary doses, as well as the COVID-19 appropriate behaviour, if we were really successful in maintaining physical distance, correctly wear masks, wash our hands, and prevent crowd gathering, we will not permit the virus spread and avoid the occurrence of another COVID-19 wave.

INTRODUCTION
The COVID-19 caused by the severe acute respiratory syndrome corona virus-2 (SARS-CoV-2) has posed a significant threat across the globe. In December 2019, it was first identified as some unknown cases of pneumonia in Wuhan, Hubei Province, China. From that time to current, we are continuously fighting a different and new variant of the corona viruses day by day as time goes. This COVID-19 is worst pandemic and difficult-to-control crises in the history, ever. In that critical situation, India lost over 2000 doctors from the modern medical system who gave their lives in the fight against COVID-19 [1]; we salute their selfless sacrifice. Awareness was raised on a massive scale across the country well about correct use of masks, cough etiquettes, physical distancing, hand washing, and sanitization [2]. But, just as we were beginning to recover from the second wave of COVID-19, a new variant known as Omicron was noticed in South Africa, which became the primary cause of the third wave in India.

According to Worldometer data [3] globally 482,228,113 confirmed cases of COVID-19 have been reported, including 6,148,925 deaths, & recovery of 416,661,577 as of 28th March 2022. And in India 43,020,723 confirmed cases of COVID-19 have been reported, including 521,066 deaths, & recovery of 42,483,829. Description of epidemiology of COVID-19 across the globe and India is depicted in **Table 1.**

VARIANTS OF SARS-COV-2
SARS-CoV-2 and other viruses continuously evolving and genetic mutations occur during replication of the genome. A variant is a viral genome (genetic code) that may contain one or more mutations. The Technical Advisory Group on SARS-CoV-2 Virus Evolution (TAG-VE) is autonomous group of experts that monitors and evaluates SARS-CoV-2 evolution on a regular basis, determining whether specific mutations and combinations of mutations alter the virus's behavior [4]. This committee proposed the name for these variants consisting of a Greek alphabet- (alpha, beta, gamma, delta etc) and scientific names (eg. for omicron 'B.1.1.529'). They are also classified SARS-CoV-2 as variant of interest [VOI, are the variant with specific genetic markers associated with changes to receptor binding, reduced neutralizing antibodies by the vaccine and reduced efficiency of treatments] and variant of concern [VOC- variant with high transmissibility, potential for severe disease, reduced effectiveness of treatments or vaccines or diagnostic detection failure]. Both SARS-CoV-2 VOI, and SARS-CoV-2 VOC are enlisted in **Table 2.**

Omicron variant
Omicron is known by the scientific name 'B.1.1.529' indicating that it evolved from the B.1 lineage **(Table 3).** The omicron has a total of 60 mutations when compared to the actual SARS-CoV-2, with a significant number of mutations affecting the spike protein, which is targeted for most COVID-19 vaccines. Because of this level of variation, there are concerns about its transmissibility, immune system evasion, and vaccine resistance. Omicron is thought to be more contagious (spreading much faster) than Delta, multiplying around 70 times faster [5]. However, it is less capable of penetrating deep lung tissue. Moreover, due to the extremely high rate of spread and its ability to evade both double vaccination and the body's immune system, the total number of patients requiring hospital care at any given time remains a major problem.

Deltacron
Deltacron is a COVID variant that includes elements of both Delta and Omicron, it contains genes from

both variants, making it a recombinant virus (recombinants form when more than one variant infects and replicates in the same person, in the same cells) [6]. Deltacron's chapter starts in mid-February, when scientists at the Institut Pasteur in Paris documented a coronavirus genetic sequence that looked very different from previous sequences [7]. The virus sample was obtained from an elderly man in northern France and appeared unusual. The majority of its genetic sequence was identical to delta's, which was dominant globally until late last year, but the part of the sequence that encodes the virus's spike protein – a key part of its external structure that it uses to enter cells in the body – came from omicron. Three more hybrid genetic sequences were reported in March, this time in the United States. There are now over 60 samples recorded in France, the Netherlands, Denmark, the United States, and the United Kingdom. Bengal, Karnataka, Maharashtra, Telangana, Gujarat, Tamil Nadu, and New Delhi are the seven states in India that have reported cases of this hybrid variant till March 28, 2022 [7]. Dr. Soumya Swaminathan, the chief scientist at the World Health Organization, tweeted: "We have known that recombinant events can occur, in humans or animals, with multiple circulating variants of #SarsCoV2. Need to wait for experiments to determine the properties of this virus. Importance of sequencing, analytics and rapid data sharing as we deal with this pandemic."

On 2nd Jan 2022, Israel confirmed its first case of an individual infected with both the seasonal flu and covid-19 at the same time named FLURONA, the two infections were found in an unvaccinated pregnant women who had mild symptoms. While it's unclear how sick people could get from having both viruses, medical experts say at-risk populations should take precautions against both the flu and COVID-19.

ICMR NEW ADVISORY FOR COVID-19 TESTING

The current COVID-19 testing approach is for early detection of symptomatic cases for rapid isolation and care, as well as for early detection of infection in the elderly >60 years old and individuals with co-morbidities like diabetes, hypertension, chronic lung or kidney disease, malignancy, obesity, and etc. for faster care. A point-of-care test, such as a home or self test, or a rapid antigen test, or a molecular test, such as RT-PCR, TrueNat, CBNAAT, or newer SARS-COV-2 omicron or variant detection RT-PCR assays. According to the ICMR protocol, in community setting the following persons may get tested:

a) symptomatic patients (cough, sore throat, fever, loss of taste/smell , breathlessness and / or other respiratory symptoms),
b) at risk contacts of confirmed cases (elderly >60 year and individuals with co-morbidities (diabetes, hypertension, chronic lung or kidney disease , malignancy, obesity),
c) individual undertaking international travel,
d) international travellers arriving at Indian airport or seaports .

In a hospital setting, testing may be performed at the discretion of the treating doctor. However, patient care should not be jeopardised as a result of COVID testing, so they included the following considerations: emergency procedures should not be delayed, and patients should not be referred to other facilities due to a lack of resources, asymptomatic patients undergoing surgical/nonsurgical invasive procedures, including pregnant women, should not be tested unless symptoms develop [8].

TREATMENT AND PREVENTIVE STRATEGIES FOR COVID-19

The primal treatment of COVID-19 is symptomatic and supportive treatment. The COVID-19 cases in previous waves were treated by oxygen therapy, steroids and inhaled budesonide and antivirals like, Remdesivir, Favipiravir. All of the drugs which are tried in the treatment of COVID-19 were repurposed drugs, majorly. The alternative treatment of COVID-19 consists of Ivermectin, baricitinib, monoclonal antibodies combination therapies, Tocilizumab, plasma therapy. Other than this, the AYUSH advised for kadha, steam, yoga, pranayam, warm water these were also widely accepted [9-12]. AIIMS/ICMR revised the COVID-19 treatment protocol on 14th Jan 2022 **(Figure 1).** They approved the off label use of Remdesivir and Tocilizumab in specific circumstances. Revised COVID-19 protocol of Uttar Pradesh (January 2022) was represented in **Figure 2.**

Ivermectin is a FDA-approved broad spectrum anti-parasitic agent. High efficiency and safety profile along with cheap cost of this medicine made it a preferred choice for common people. Ivermectin is considered as a wonder drug because of its different mechanisms of action. It inhibits the viral replication, blockade of the entry of the virus into the host cell, action as an ionophore molecule, prevention of microvascular thrombosis and sequestration in the pulmonary tissue. 75 studies from 24 countries on the effect of Ivermectin for COVID-19 showed that ivermectin significantly improve viral clearance, lowers hospitalization stay, and recovery [9,10,12]. Uttar Pradesh was the first state which has officially approved the use of Ivermectin for COVID treatment. Earlier the Indian states Uttar Pradesh, Uttarakhand, Goa, Delhi, Kerala etc were officially approved the use of ivermectin in COVID-19 treatment protocol. Uttar Pradesh, one of the biggest and populated state of India but during

COVID-19 pandemic this state showed excellent disease containment and effective management. Till date very few states have published their treatment protocol for third wave of COVID-19 pandemic, Uttar Pradesh government have kept ivermectin in their treatment protocol due to the wondering results of this drug. Recently, molunupiravir is a antiviral drug administered orally is recommended for severe COVID-19 patients, showing very satisfactory results.

Simple precautions that people can take to prevent the spread of SARS-CoV-2 include Namaste in spite of sake hand, physical distancing, before entering the house remove your shoes and slippers(chappals), hand wash, wear a mask when leaving the house, eat a healthy diet to boost immunity, meditate, yoga, exercise, and get plenty of sleep. There should be no any addiction. Sanskar, senior's respect and care, and a passionate home environment. You can work from home. Tele-consultation should be preferred. Appropriate airborne infection control measures in clinics and hospitals. During procedures, use a PPE kit and N95 masks. Aside from this, some actions are required at the government level as well. The WHO recommends accelerating COVID-19 vaccination and booster/preventive doses for eligible groups, measures to increase the adherence of all individuals to protective measures, preventing crowding and people gathering in confined spaces, and activating & prioritizing the case investigation and contact tracing for any COVID-19 cases, including Omicron; enhancing testing (and sequencing) and making it available freely to people with symptoms.

Mega COVID-19 vaccination drive has been going-on since 16th January 2021 in India. Vaccines which have mainly been available in India to fight against COVID-19 are covaxin, Covishield & Sputnik-V. First dose, second dose, and/or booster dose should be taken from all eligible candidates including health workers, old age persons, children (15-18 years old).

CONCLUDING REMARKS

With the help of not only government but also non-governmental cooperation, India has once again stood up to the unimaginable challenges posed by the COVID-19. Following the first and second COVID-19 waves, the third wave has popped up with a new Omicron variant having high transmission rate and lower treatment and vaccine efficacy. Mega vaccination drive, including additional booster / precautionary doses, as well as the covid appropriate behaviours, if we are able to maintain physical distance, properly wear masks, wash our hands, and prevent crowds from gathering, we will not allow the virus to spread. By this we will not only win the race against COVID-19, but also curtail the spread of infectious diseases like tuberculosis and other disorders. We can confidently say that the public is now wiser and more aware of how to stay healthy and keep an eye on their vitals using a thermometer for body temperature, pulse oximeter for oxygen saturation, prone position to maintain oxygen levels, and eating a healthy diet to boost their immunity. People now realize the importance of social distancing and other preventive measures recommended by the government and health care fraternity with a positive attitude. So let us fight this war together, because this too shall pass. We wish 'Sarve Bhavantu Sukhinah,Sarve Santu Niramaya'.

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Table 1: Epidemiology of COVID-19 in India and globally [Source: Worldometer - www.worldometers.info**]**

S. No.	Particulars	Global	India
1	Total no. of cases	48,2187023	43,020,723
2	Total deaths	6,148,925	521,066
3	Total recovered	416,661,545	42,483,829
4	Total cases/1 million population	61,865	30,653
5	Deaths/1 million population	788.8	371
6	Total tests	-	787,355,354
7	Tests/1 million population	-	560,996

Table 2: SARS-CoV-2 VOI (Variant of Interest) and SARS-CoV-2 VOC (Variant of Concern) with date of designation.

S.No.	Variant of Interest (VOI)		Variant of Concern (VOC)	
	Variant	Date of designation	Variant	Date of designation
1	Epsilon	5 March 2021	Alpha	18 Dec 2020
2	Zeta	17 March 2021	Beta	18 Dec 2020
3	Eta	17 March 2021	Gamma	11 Jan 2021
4	Theta	24 March 2021	Delta	04 April 2021
5	Lota	24 March 2021	Omicron	24 Nov 2021
6	Kappa	4 April 2021		
7	Lamda	14 June 2021		
8	Mu	30 August 2021		

Table 3: Description of Omicron variant

Virus	Corona virus
Variant	Omicron(B.1.1.529)
Mutation	33 mutations
Variant variety	Variant of concern
Detected on	24 November 2021
Detected in	South Africa

Figure 1: Schematic representation of COVID-19 test interpretation using home test /rapid antigen test [Source: Indian Council of Medical Research (ICMR), New Delhi, 10th January 2022].

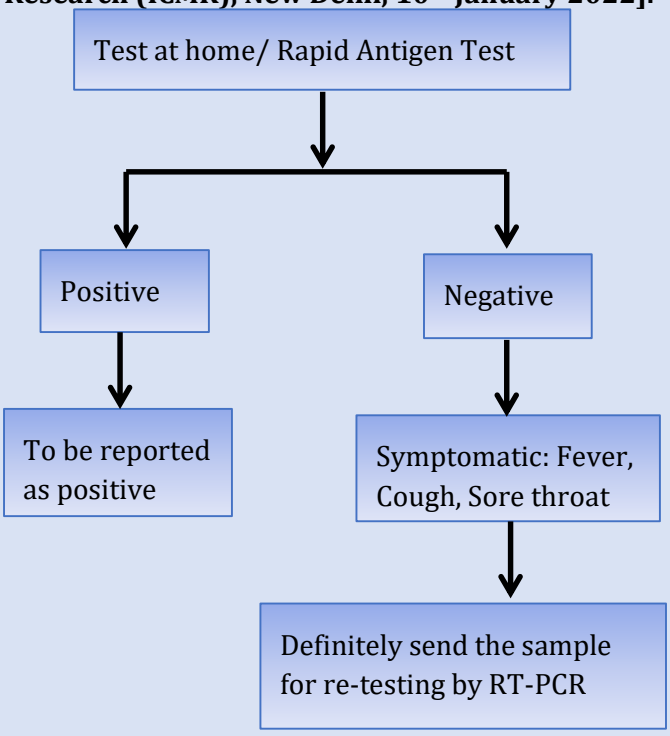

Figure 2: Revised COVID-19 protocol of Uttar Pradesh (January 2022)

A) Treatment of mild COVID-19 patients

- ISOLATION.
- IVERMECTIN 200 mcg/ kg body weight per day for 5 days.
- Doxycycline 100 mg twice daily/ Azithromycin 500 mg daily for 5 days.
- PARACETAMOL SOS (in case of fever).
- Vitamin B, C, D.

B) Prophylaxis of family contacts of COVID-19 patient

- Two Doses of 12 mg of IVERMECTIN on 1st Day and 7th Day.

C) Prophylaxis of Healthcare Workers

- IVERMECTIN 12 mg once a Week

Epidemiological Tools Usage for Covid-19 Pandemic Control We can do this. We must.

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Case incidence continues to increase despite reduction in testing. Omicron BA.2 now dominant among sequences shared (note significant decline in sequences available). Deaths are decreasing but we can & should do more to save lives now. (Figure 1)

The global increase in COVID-19 cases continues, driven by large outbreaks in Asia and a fresh wave in Europe. Several countries are now seeing their highest death rates since the beginning of the pandemic. This reflects the speed with which Omicron spreads, and the heightened risk of death for those who are not vaccinated, especially older people. (Figure 2)

We all want to move on from the pandemic. WHO's target remains to vaccinate 70% of the population of every country by the middle of this year, with priority given to health workers, older people and other at-risk groups. Achieving that target is essential. Omicron is sweeping the globe. It's the latest variant of concern...about 86% of the sequences that are available from the last four weeks are this BA.2 sublineage. The rest are BA.1. We are seeing an increasing proportion of BA.2 being detected. (Panel A & B)

However, we are seeing a lower number of sequences being reported to platforms like GISAID. So, it still remains absolutely critical that we have good surveillance worldwide, that we have strong testing and that we have intelligent sequencing with good geographic representation around the world. Omicron is a highly transmissible VOC. BA.2 is more transmissible than BA.1 and what we are starting to see in some regions of the world, in some countries, an uptake in cases again. So whatever variant is circulating, if you lift all of the public health measures that we know can reduce the spread of this virus, the virus will take advantage of that. The reproductive number has risen above one in many countries. So, in effect, transmission has taken off again in many, many countries...when you open up as quickly as some countries have, you will get that bounce in transmission. If you add to that the increased transmissibility of BA.2, then you get a double impact. A double effect.

Mortality is still far too high. This is driven by intense spread, low vaccination coverage in at risk groups (eg >60 year olds, people with underlying conditions), gross inequity and lack of access for many across Africa & huge amounts of misinformation. (Figure 2 & 3)

Countries that focused on vaccination, on vaccinating the most vulnerable & protecting the most vulnerable population, it doesn't necessarily result in massive increases in pressure on the health system, & it doesn't result in increases in death rates. Good surveillance, good tracking linked to measures. reduce transmission. Measures that protect individuals, especially vaccination, lead to a situation where the health system can cope and populations can continue to live their lives as normally as possible. Even in areas with high population coverage it's critical to ensure key risk groups reach 100% vaccination coverage. Take a closer look at vaccination rates among >60s in some areas with high mortality during omicron (or delta). Vaccine campaigns need to reach those most at risk. COVID19 surveillance, testing, sequencing, early clinical care, vaccination and strategic use of individual/community use of public health and social measures needs to be reinforced. Here's the good news: we have tools that can reduce the spread & save lives now. Given all of the tremendous global challenges we face, #COVID19 has solutions We can save many lives right now & reduce the risk of future variants with access and rational use of life saving tools. Each country is facing a different situation with a unique set of challenges, but the pandemic is not over. We must remain vigilant & continue to vaccinate, test, sequence, care for patients, protect our health workers, ventilate, adapt & adjust population interventions as needed. We need strong surveillance to detect #SARSCoV2 variants so that globally we can adjust interventions as needed. Now is the time to enhance the systems we put in place for #COVID19, not dismantle them. We can do this. We must.

Figure 1: COVID-19 cases reported weekly by WHO Region, and global deaths, as of 20 March 2022**

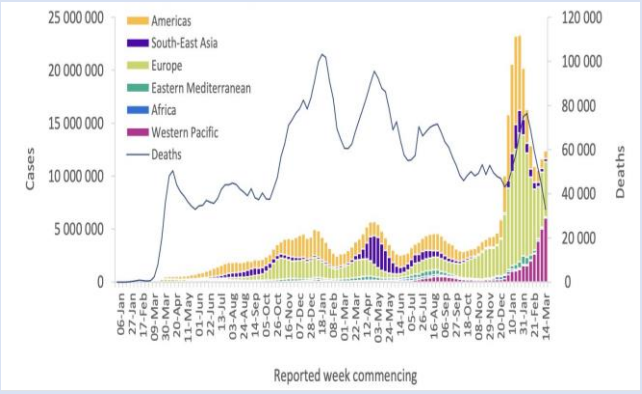


Table 1: Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 20 March 2022**

WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days *	Cumulative deaths (%)
Western Pacific	6 055 914 (49%)	21%	38 516 204 (8%)	6 995 (21%)	5%	200 735 (3%)
Europe	5 221 339 (42%)	0%	193 241 723 (41%)	13 047 (40%)	-18%	1 918 389 (32%)
Americas	738 048 (6%)	-17%	149 691 756 (32%)	8 845 (27%)	-42%	2 673 043 (44%)
South-East Asia	269 520 (2%)	-23%	56 739 711 (12%)	2 797 (8%)	-18%	771 822 (13%)
Eastern Mediterranean	74 004 (1%)	-41%	21 490 623 (5%)	1 042 (3%)	-38%	339 234 (6%)
Africa***	25 475 (0%)	-33%	8 521 974 (2%)	233 (1%)	-19%	170 822 (3%)
Global	**12 384 300 (100%)**	**7%**	**468 202 755 (100%)**	**32 959 (100%)**	**-23%**	**6 074 058 (100%)**

*Percent change in the number of newly confirmed cases/deaths in the past seven days, compared to seven days prior
**See Annex 2: Data, table, and figure notes
*** In the last WEU, there was an increase in the number of cases in the Africa Region due to the artifact

Panel A. Relative proportions of Omicron lineages over the last 4 weeks by specimens collection week

				Overall (%)	Last 4 weeks by collection date (%)			
Lineage	Countries	Sequences[a]	SGTF[b]	Total	2022-08	2022-09	2022-10	2022-11
BA.1	164	1 077 755	96.26	44.40	15.21	8.24	3.98	4.26
BA.1.1	151	913 277	95.72	37.62	34.51	22.29	11.61	8.98
BA.2	106	431 242	0.18	17.77	49.93	69.12	83.95	85.96
BA.3	21	648	96.91	0.03	0.01	0.02	0.01	0.00
Unassigned	62	4 536	34.99	0.19	0.35	0.34	0.44	0.80

[a] Data source: sequences and metadata from GISAID
[b] Percentage of sequences with Spike H 69-70 deletion associated with S gene failure

Panel B. Incidence of Omicron lineages by week of specimens collection.

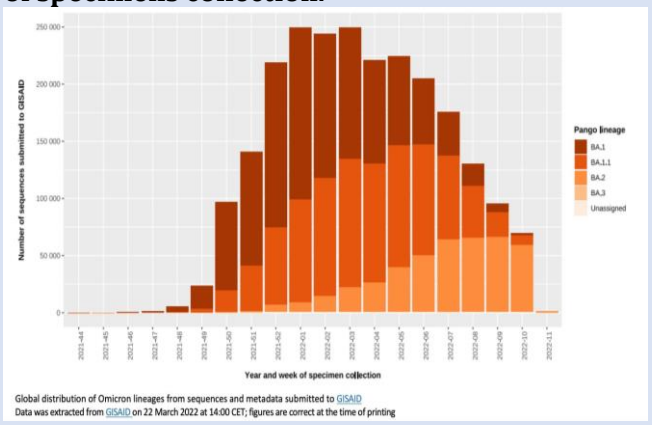


Figure 2: COVID-19 cases per 100 000 population reported by countries, territories and areas, 14-20 March 2022*

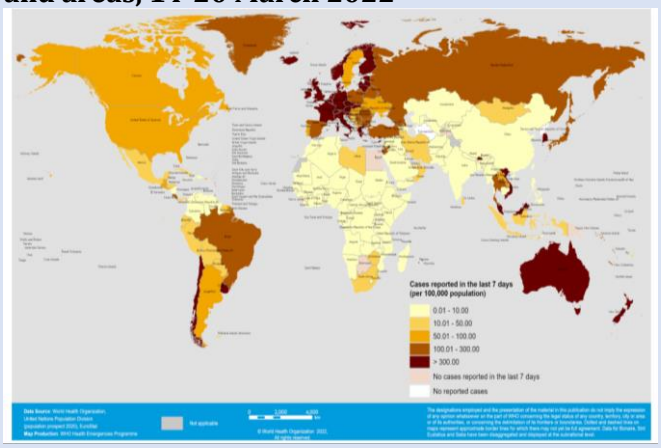
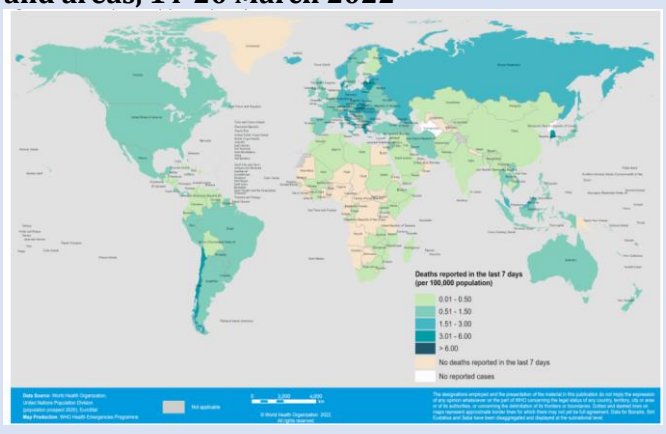


Figure 3: COVID-19 deaths per 100 000 population reported by countries, territories and areas, 14-20 March 2022**



Management of Needle stick Injury in Healthcare Workers

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The term 'healthcare worker (HCW)' refers to all persons working in the healthcare settings who have the potential for exposure to infectious materials like blood, tissue, and specific body fluids, contaminated medical supplies and equipment, and contaminated environmental surfaces.[1] A **needlestick injury (NSI)**, or **percutaneous injury** is the penetration of skin by a needle or other sharp object, which was in contact with blood, tissue, or other body fluid before the exposure.[2] The most common blood borne viruses (BBV) transmitted with NSIs are hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV.[3,4] Worldwide, the number of HCWs annually exposed to sharps injuries contaminated with HBV, HCV or HIV, has been estimated to be 2.1 million, 926,000, and 327,000, respectively.[5]CDC estimates that about 385,000 sharps-related injuries occur annually among HCWs in hospitals.[6] Since the reporting system is likely to have recorded only cases with an important exposure, the actual burden of sharps injuries is likely to be much higher.[7] In India, incidence of NSI in HCW ranges from 40% to 80% and is mostly seen among doctors[8]. Therefore, HCWs need to be familiar with immediate management both for themselves if they become injured and for assisting injured colleagues.

Potentially infectious body fluids associated with NSI

In addition to blood and visibly bloody body fluids, the following fluids are also considered potentially infectious: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid. Faeces, nasal secretions, saliva, sputum, sweat, tears, urine, and vomitus are not considered potentially infectious unless they are visibly bloody.[1] CDC estimates that blood/blood products are involved in 79% of NSIs whereas other body fluids are involved in 21% of NSIs.[2]

Unsafe injection practices

In developing countries 16,000 million injections are administered each year, among which more than 90% are given for therapeutic purposes while 5-10% are given for preventive services.[9] Unsafe injections can place patients and community at risk of morbidity and mortality with various BBV. Following practices need to be avoided in a health-care settings

- Re-use of injection devices
- Loading syringes with multiple doses and injecting many people consecutively.
- Re-capping needles/Bending the needle.
- Improper discarding of needles and syringes
- Discarding needles and syringes into the general waste system

Risk of infection with NSI

The actual risk of transmission during an incident depends on several factors, such as the type of injury, types of devices used, viral load of BBV in the source patient, the immune status of the recipient, and risk reduction strategies implemented in the healthcare setting.[9] The risk of transmitting HBV virus depends on the vaccination status of the HCW. HCWs with HBV vaccination and fully developed immunity to the virus are at virtually no risk for infection. On the contrary, the risks for non-vaccinated HCWs range from 6%-30%.[1] (Table 1)

Factors that influence Risk of Infection

The risk of infection, following exposure, depends on the following factors[10]

- Type of needle (hollow bore vs. solid)
- Device visibly contaminated with patient's blood
- Depth of injury
- The amount of blood involved in the exposure
- The amount of virus (viral load) in the exposed blood/body fluid at the time of exposure
- Timely (<2 hours and up to 72 hours) availability and efficacy of the PEP.

CDC estimates that hollow-bore needles have been involved in the majority (55%) of percutaneous injuries and carry a higher risk of transmission of BBV to HCW than other devices. Hypodermic needles attached to syringes have been the most common type of hollow-bore needle involved in percutaneous injuries and account for 30% of all percutaneous injuries followed by suture needles which account for 21% of all percutaneous injuries.[2]

How to prevent NSI?

Use appropriate barrier precautions and standard work precautions /universal work precautions while working and handling all potentially infectious material. Thoroughly wash hands with water and soap after removing gloves, handling infectious materials, and immediately after any contamination of skin surfaces. All HCWs must be immunized against HBV. Take special care of handling sharp objects (like needles, lancets, scalpels, etc.) to avoid injuries[10].Avoid unnecessary use of sharps and

needles, never recap needles, never break/bend needles by hand, dispose sharps in a puncture resistant container. Use of safe needle devices can reduce injuries by over 90%.[11]

Post-exposure prophylaxis (PEP)

PEP refers to the comprehensive management given to minimize the risk of infection following potential exposure to BBV.[10] The ultimate goal is to maximally suppress any limited viral replication that may occur, to prevent or abort early infection.

Management to exposure site – first aid:

- Do not panic and Remove gloves
- Do not place the pricked finger into the mouth reflexively
- Gently encourage bleeding in the puncture site
- Wash the injured area with mild soap and water.
- Do not use bleach, alcohol, iodine, antiseptic, detergent, etc.
- In the case of mucosal exposure, wash the exposed area copiously with water or normal saline. Do not use soap or disinfectant in the mouth.
- For eye, immediately irrigate the exposed eye thoroughly with water or normal saline. If wearing contact lenses, leave them in place while irrigating. Once the eye is cleaned, remove the contact lens and clean them in a normal manner.

Immediately report to a trained individual who is familiar with the local management pathway.

Risk assessment and counselling:

Risk assessment is important as the risk of transmission of a BBV virus is related to the volume of blood transferred.[9] The exposure is mild, moderate or severe depending on the volume of blood to which HCW got exposed and the contact with the skin of HCW. Every HCW exposed to NSI should be counselled regarding psychological support, importance of testing, side-effects of PEP drugs, use of barrier contraception, avoidance of blood donations, pregnancy and breastfeeding during first 6-12 weeks after exposure. For prophylactic treatment the exposed person must sign a consent form. If the HCW refuses to initiate PEP, it should be documented.

Laboratory Evaluation of both exposed person and source patient:

Both the source as well as exposed should be tested immediately for HIV, Hepatitis B surface antigen (HBs Ag),Hepatitis C antibody (Anti-HCV).Additionally in HCW if HBV immunity status is not already known, a test for anti-hepatitis B surface antibody (Anti-HBs) should be done.

HIV PEP:

According to National AIDS Control Organisation (NACO)guidelines, if the HIV status of the source person is negative, PEP is not required. If the status of the patient is unknown and neither the patient nor his blood is available for testing, then the choice of whether to use PEP and what regimen, will depend upon the severity of the wound and how much is known about the individual's HIV risk history.[10]PEP has its greatest effect when started within **2 hours of exposure**. PEP is likely to be less effective when stated more than 72 hours after exposure.[1,10]PEP drugs recommended by NACO are fixed dose combination of Tenofovir (TDF) 300 mg plus Lamivudine (3TC) 300 mg plus Efavirenz (EFV) 600 mg once daily for 4 weeks.

HBV PEP: PEP regimen for HBV depends upon HBV status of the source, type of exposure and immunisation status of the exposed person (Table 2).[10] The vaccine against HBV can be given shortly after exposure either as the first dose or as a booster. The additional use of hepatitis B immunoglobulin (HBIg) aims to provide passive immunity, if the HCW has not been previously adequately immunised (antiHBs <10 m IU/ml) or is a known non-responder to the vaccine—that is, those with a documented absence of antiHBs after a 2 complete course of HBV vaccination. The ideal time frame for use of post-exposure HBIg is within 48 hours of exposure up to one week.[12]

HCV PEP: If source is HCV positive or has potential HCV risk factors, exposed should be tested for HCV infection either by anti HCV by 3-4 weeks of exposure or earlier by HCV RNA after 15 days of exposure. There is no PEP to manage HCV prophylactically, however we simply monitor the HCW to develop acute HCV infection and treat the infection with available anti HCV drugs. Treatment of acute hepatitis C infection is known to be highly effective.[13] Early detection of HCV transmission and assessment for treatment is therefore essential. There are many arguments for why PEP in HCV is not recommended despite having antiviral drugs just like HIV[13].Chronic HCV infection is curable in the vast majority of patients in contrast to HBV or HIV where there is no cure for chronic infection and the long-term impact of infection may be substantial. Ability to rationalize the role of PEP in the first few days of infection is also limited due to lack of understanding of the pathogenesis of early HCV infection.

Follow-up of the exposed person[10] : Testing for at least 6 months after exposure (6 weeks, 12 weeks and 6 months) for HIV, Anti-HCV and HBsAg should

be done. If PEP is used then drug toxicity monitoring at base line and after 2 weeks. During the follow up period, especially the first 6-12 weeks, the following measures are to be adopted by the HCW: refraining from blood /semen/ organ donation and abstinence from sexual intercourse. Women should not breast feed their infants.

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Table 1: Risk of transmission of Blood borne viruses through NSI

Hepatitis B virus	30% (HBeAg positive)
	1 – 6% (HBeAg Negative)
HIV	0.3% (0.2 - 0.5%)
Hepatitis C virus	1.8% (0 – 7%)

Table 2: Recommendations for HBV PEP, according to immune status of HCW

HCW HBV immune status	**Post-exposure prophylaxis**
Unvaccinated or incompletely vaccinated	HBV vaccination and HBIg
Previously vaccinated, known responder [Anti-hepatitis B surface antigen (Anti-HBs) >10 mIU/ml]	None
Previously vaccinated, No Response after 3 doses (antiHBs < 10 mIU/ml)	HBV vaccination and HBIg X 1
Non-responder (antiHBs <10 mIU/mL even after two complete series of HBV vaccination)	HBIG x 2 (one month apart)

NON-COMMUNICABLE DISEASES

7th Foundation Day International CME on Sustainable Development Health and Wellness with a focus on Sustainable Agriculture, Health & Wellness: A Brief outcome Report

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The Sustainable Development Goals (SDGs) are a collection of seventeen interlinked goals which are designed to be a "blueprint to achieve a better and more sustainable future for all".(1) The link of Health and Wellness with the agriculture is an important aspect of these SDGs and reducing the premature mortality due to NCDs.(2) Keeping this in view, World NCD Federation organized its 7th foundation day CME with the theme on "Sustainable Agriculture, Health and Wellness". The CME documented the evidence and conducted the scientific sessions on Sustainable Development Goals focusing on the linkage of health and wellness with agricultural systems/services. It focused on changing policies and practice in achieving the goal 3.4 to reduce premature mortality due to NCDs and promote mental health and goal 3.9 to reduce illnesses and death from Hazardous chemicals and pollution of Goal 3 on: Good Health and Wellbeing".(3)

There were two sessions, one panel discussion, 2 keynote lectures and a poster presentation session during the CME. The first session on "Sustainable Development, Ecological crisis due to chemical toxins in Agriculture", it covered the topics on Sustainable Development Goals: Health and Wellness; Ecological Crisis Due to Chemical Toxicity: Addressing Soil health for better human health; Endocrine disruptors: Magnitude of the problem and how to address them; and Classification of Pesticides and measures of their toxicity. The outcome of the session was that the link the SDGs and Sustainable agriculture impacts the overall achievement of the Goal 3 i.e., Health and wellbeing, the soil health ultimately impacts the human health in terms increasing prevalence of various chronic diseases such as cancer, neurological disorders, spontaneous abortions, birth defects etc.

The second session was on "Agriculture Practices and Health Effects". It included the topics on Health effects of pesticides: Medical toxicological perspective; Pesticides related Cancer and their control; Neurological manifestations due to pesticide exposure; and Food Safety & Nutritional challenges for addressing NCDs. The outcome of the session was that the toxins or chemicals used in the agriculture in the form of pesticides impacts the human body at cellular level which is increasing with a higher pace. The cancers are directly linked to the pesticide usage such as oesophageal cancer, breast cancer, prostate cancer etc. The neurological problems are also increasing due to chronic exposure, the birth defects specifically the neural tube defects are increasing due to chemical toxicity.

The third session was the Panel discussion on "Policy and Roadmap for Sustainable Agriculture, Health and Wellness". The discussion included the Linkage of Agricultural policies with Health and Wellness, Innovations to promote Sustainable Agriculture and organic farming, how to promote gut health: Issues and challenges, Ayurveda Concept of Health and Wellness, how to integrate pest management by using biopesticides? How crop biodiversity can change the ecological crisis in Punjab and How Aahaar Kranti will contribute to sustainable development.

There were two keynote lectures on Life course approach for Healthy Ageing, One Health Governance and AMR: How to address it?. From the first keynote lecture it was concluded that the COVID-19 has had significant effects on short term nutritional behavior (due to isolation and food availability) which will likely have long term effects on human growth and health, better nutrition can have both acute and long-term positive effects during the COVID-19 pandemic on morbidity, growth and mortality (but don't expect it to block infection) and peace with Nature is the key to Sustainable Good Health throughout the Life Course. The outcome of the second keynote lecture was the One Health Governance is an importance aspect in the antimicrobial resistance as this requires an integrated approach for the human, animal and agriculture.

A total of 11 posters were presented during the CME on a wide range of topics. Hence, this CME was a first of its kind of academia effort to link the health and agriculture sectors for better coordination at

international or national level to achieve "Sustainable Development" together. The outcome of the CME will be published as a "Policy Roadmap for the States on Sustainable Agriculture, Health and Wellness" which will be shared with the states for implementation

For the details and further reading people can visit the website of World NCD Federation https://worldncdfederation.org/

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Health and Nutrition

Vitamin A supplementation in infants and children 6–59 months of age. © World Health Organization 2011

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Vitamin A deficiency is a major public health problem affecting an estimated 190 million preschool-age children, mostly from the World Health Organization (WHO) regions of Africa and South-East Asia. Infants and children have increased vitamin A requirements to promote rapid growth and to help combat infections. Inadequate intakes of vitamin A at this age could lead to vitamin A deficiency, which, when severe, may cause visual impairment (night blindness) or increase the risk of illness and mortality from childhood infections such as measles and those causing diarrhoea.

The combination of childhood underweight, micronutrient deficiencies (iron, vitamin A and zinc) and suboptimal breastfeeding is responsible for 7% of deaths and 10% of the total disease burden. Vitamin A supplementation in children 6–59 months of age living in developing countries is associated with a reduced risk of all-cause mortality and a reduced incidence of diarrhoea. ***The mechanisms by which vitamin A reduces mortality are not fully understood,*** and it is not clear whether its action is mediated through the correction of underlying deficiencies or through adjuvant therapeutic effects. Vitamin A supplementation may improve gut integrity and therefore decrease the severity of some diarrhoeal episodes. The role of vitamin A in innate and adaptive immunity may also include reducing susceptibility to and/or severity of other infections.

Many countries have integrated strategies to deliver vitamin A supplements to infants and children in their national health policies. The delivery of vitamin A has been integrated into routine health services, for example through the establishment of biannual "special days", when vitamin A supplementation is combined with other child survival interventions such as deworming or nutrition education. Vitamin A supplements are also commonly distributed as part of the Expanded Programme on Immunization (especially at 9 months, alongside measles vaccination). In 2009, about 77% of preschool children in more than 103 priority countries received two doses of vitamin A supplements.

WHO Recommendations

High-dose vitamin A supplementation is recommended in infants and children 6–59 months of age in settings ***where vitamin A deficiency is a public health problem*** (strong recommendation2).

A suggested vitamin A supplementation scheme for infants and children 6–59 months of age is presented below.

Suggested vitamin A supplementation scheme for infants children 6–59 months of age

Target group Infants 6–11 months of age (including HIV+),
Dose 100 000 IU (30 mg RE)
Children 12–59 months of age (including HIV+)
Dose 200 000 IU (60 mg RE) vitamin A
Frequency Once Every 4–6 months

Route of administration

Oral liquid, oil-based preparation of retinyl palmitate or retinyl acetatea

Settings

Populations where the prevalence of night blindness is 1% or higher in children 24–59 months of age or where the prevalence of vitamin A deficiency (serum retinol 0.70 μmol/l or lower) is 20% or higher in infants and children 6–59 months of age

Remarks

1. This guideline replaces previous recommendations on vitamin A supplementation for the prevention of vitamin A deficiency, xerophthalmia and nutritional blindness in infants and children 6–59 months of age (8).
2. The above recommendation can also be applied in populations where infants and children may be infected with HIV.
3. The magnitude of the effect may differ across settings and populations, possibly due to the extent of vitamin A deficiency or the availability of other nutrients (e.g. dietary intake of vitamin A will differ across locations and the effects of supplementation may be smaller in places with greater access to vitamin A-rich foods or with regular consumption of vitamin A-fortified foods).
4. This intervention should be used along with other strategies to improve vitamin A intakes, such as dietary diversification (21) and food fortification (22).

5. Adverse effects within 48 hours of receiving supplements containing 100 000–200 000 IU vitamin A are usually mild and transient, with no long- term consequences. Adverse effects may include bulging of open fontanelles in younger infants, and nausea and/or vomiting and headache in older children with closed fontanelles.
6. Vitamin A supplements should be delivered to children 6–59 months of age twice yearly, during health system contacts. This should be marked on the child health card, or integrated into other public health programmes aimed at improving child survival, such as polio or measles national immunization days, or biannual child health days delivering a package of interventions such as deworming, distribution of insecticide-treated mosquito nets and immunizations.
7. A quality assurance process should be established to guarantee that supplements are manufactured, packaged and stored in a controlled and uncontaminated environment (23).
8. When determining the vitamin A status of a population, guidelines on indicators for assessing vitamin A deficiency should be utilized
9. •Existing guidelines on the treatment of xerophthalmia and measles in infants and children 6–59 months of age should be referred to in these cases.

COMMENTARY

Package Labelling and its understanding among attendees of webinars

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Introduction: Obesity prevalence has risen tremendously in recent decades in India and worldwide, reaching epidemic levels. Obesity and other chronic diseases prevention is a public health priority, according to the World Health Organization (WHO). In this regard, it is critical to continue developing regulations based on scientific data and promote healthy eating habits. One of the multiple interventions adopted by public health authorities globally to enhance people's diet is to provide nutritional labelling that offers health warnings, preferably Front of Package Labelling (FOPL).

Nutrition labels on the front of packages (FOP) are designed to provide simple nutrition information in a more visible location than nutrition facts labels (NFTs), typically found on the back or side of products. Several FOP strategies, including 'high in' labelling, have been used to identify foods high in nutrients of public health significance. (1)

Non-communicable diseases (NCDs) are becoming more prevalent in India. In many industrialized countries, NCDs strike people at 55 years or above, whereas they affect Indians a decade earlier (at 45 years old). (2)

Chronic diseases are increasingly contributing to India's overall disease burden and the high rate of health loss linked with them, particularly in less developed low epidemiological transition level (ETL) states, underscoring the need for specific policy actions to address this significant cause of disease burden. (3)

A compelling front-of-package label is one of the most successful strategies for influencing customer behaviour to improve dietary choices and reduce their risk of NCDs. Front-of-package warning labeling is an important part of an extensive strategy to encourage people to live healthier lives because it allows consumers to quickly, clearly, and effectively address products with high sugar, sodium, saturated fats, trans fats, and total fats, the critical nutrients linked to India's NCD burden. FOPL is most effective when it is made mandatory and applied to all packaged foods, and the label is easy to understand, straightforward, and visible. A comprehensive nutritional profile model power it. (4)

Methods: To build a public narrative around how strong FOPL can help address Obesity, Cardiovascular diseases, Diabetes, and associated endocrinal diseases, etc. a webinar on "Nutritional Profile Model: Pillar to Successful Front of Package Labelling" to reduce the burden of NCDs in India' 'was organized by "All India Institute of Medical Sciences, Rishikesh" in cooperation with "All India Institute of Medical Sciences, Kalyani". In our study, all webinar participants who completed both the pre-and post-test were included as study participants.

Data Collection: Participants for the webinar were provided with a registration link, a pre-test link, and a post-test link used for data collection. In our study, all registered participants who completed the pre-test and post-test were included as study participants. The pre-and post-tests had information regarding the participants' sociodemographic details as well as their knowledge of FOPL.

Statistical Methods: Data collection and compilation were done in MS Excel and analyzed using SPSS. Categorical variables were reported as percentages. The Institutional Ethics Committee, All India Institute of Medical Sciences, Rishikesh, granted ethical approval. via Letter No-AIIMS/IEC/21/391, Dated 16-7-2021

Results: A total of 198 participants registered for the workshop, of which 75 participants filled the pre-test and 59 filled the post-tests. Forty-two of the participants scored 11.69 (77.9%) on the pre-test and 11.04 (73.6%) on the post-test, showing that the majority of the participants were aware of the benefits of FOPL and that their knowledge could be used to build a public narrative on how FOPL can help address NCDs in India.

Discussion: A webinar on "Nutritional Profile Model: Pillar to Successful Front of Package Labelling" to reduce the burden of NCDs in India'' was conducted at All India Institute of Medical Sciences, Rishikesh in collaboration with All India Institute of Medical Sciences, Kalyani. In our study, it was observed that the majority of the study participants were aware of the benefits of the FOPL system and their knowledge could be used to build a public narrative on the importance of FOPL.

The speaker emphasized the importance of NCD burden and the function of NCD pathways, which included unhealthy diets, inadequate physical

exercise, exposure to tobacco smoke, and excessive alcohol use. Although difficult to treat, most of these terrible diseases can be avoided by changing one's diet and supporting healthier, more sustainable food systems i.e., FOPL.

According to similar findings in a survey, consumers perceive food shopping to be a bewildering experience due to the large variety of products available. Even though an increasing number of people want to make healthy choices, consumers find it challenging to purchase nutritious items because there are so many various kinds of products accessible from both domestic and foreign manufacturers. Most shoppers spend less than ten seconds selecting each item, providing them with insufficient time to evaluate nutrition information on the backs of packaged foods. Instead, customers are forced to compare numerous types of FOPL from various manufacturers and areas, which may use difficult-to-understand symbols or be based on multiple values. Consumers may be misled into purchasing harmful products owing to a lack of knowledge of the various FOPL systems. Furthermore, detrimental effects may have nutritional claims on their packaging that are misleading. Claims about the amount of a particular nutrient in a meal, as well as direct or indirect claims about a food's potential health benefits, can produce a "health halo effect," leading to customers misinterpreting the nutritional quality of an unhealthy product. (5)

According to the speakers, nutrition labeling has been identified as an essential population-level intervention for transmitting information about the nutrient content of foods to consumers as the global burden of unhealthy diet rises, leading to a significant increase in the worldwide burden of NCDs.

FOPL is a simplified version of the nutritional information that can be seen on the front of packaged foods in various formats. Due to its simpler format choices and prominent position on the front of the food packets, FOP labels are more evident than traditional labeling [Back of pack labeling or Nutritional fact panel; (NFP)], which is generally situated on the sides of the packed goods.

As we all know, India is currently facing a massive threat of rising fatalities from NCDs, with most deaths occurring in rural areas. The rising trend of urbanization has resulted in a shift where risk factors for NCDs are more widespread in the population due to socioeconomic, nutritional, cultural, environmental, and environmental variables. Consumers have an inalienable right to know what is in a food package or drink to make informed dietary choices based on their health requirements. To prevent NCD fatalities, we believe India has the opportunity to include nutritional labels and health warning signs on food items. To combat the rising trend of NCDs, it is necessary to develop regulatory measures based on scientific data and promote healthy eating habits. (6)

Conclusion: It is essential to provide consumers with basic and vital information about nutritional quality. FOPL also permits the reformulation of existing foods that are rich in salt, fat, and sugar, allowing consumers to choose items with more excellent nutritional quality at the point of purchase. FOPL is a low-cost health promotion method that can decrease non-communicable diseases.

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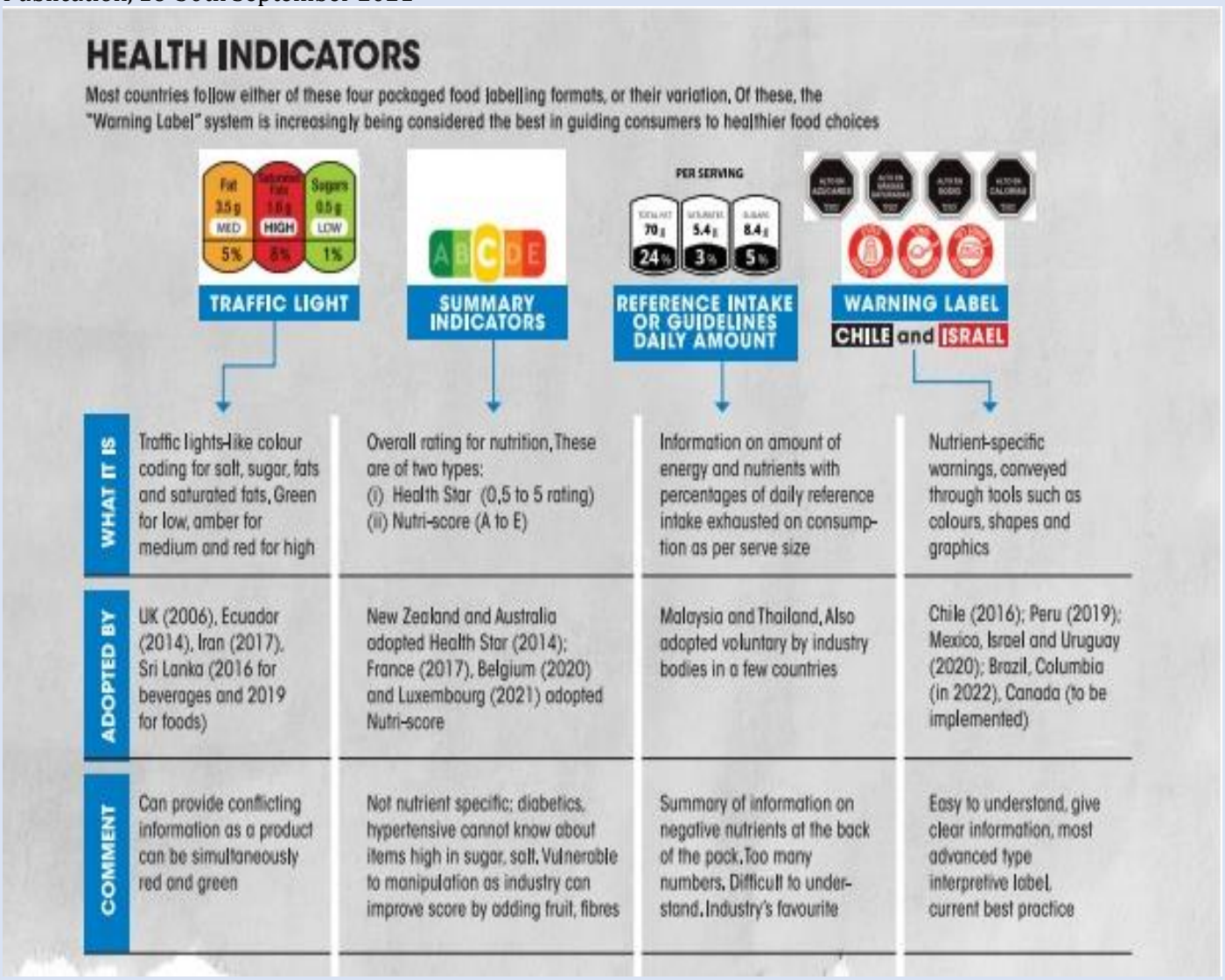
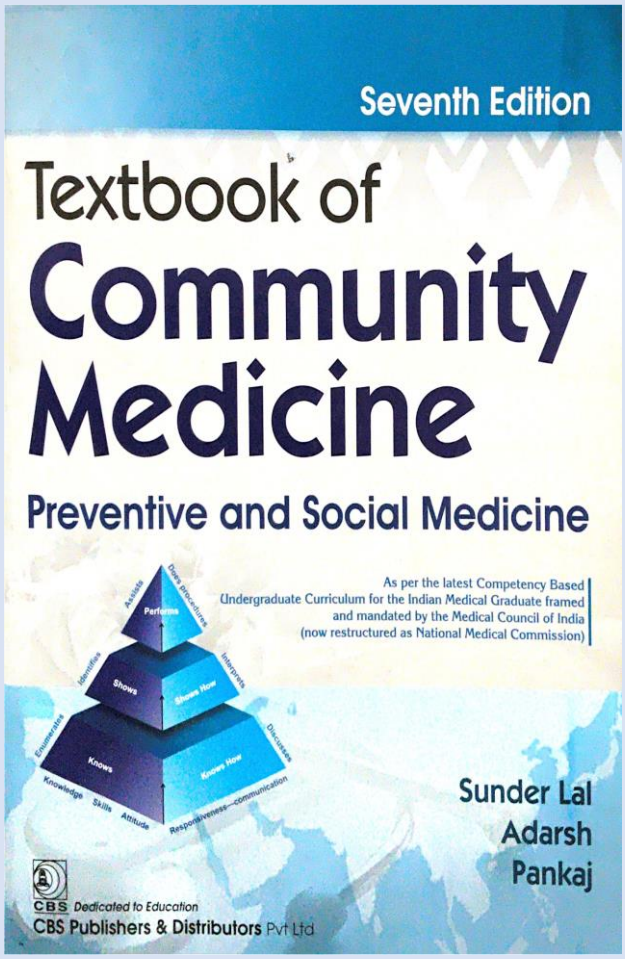
Figure 1: Courtesy with permission from Editor of DTE Magazine: Cover story Devil in the Details, Down to Earth Publication, 16-30th September 2021



Book review



It is a matter of great privilege for me to write a review of Textbook of Community Medicine Seventh Edition authored by Dr(Brig) Sunder Lal. This edition is in line with the competency based undergraduate curriculum for the Indian Medical Graduates mandated by National Medical Commission.

This edition aims to fulfil the long standing need of the medical students. The topics and contents have been framed into 20 chapters to accomplish the achievement of 107 core competencies including 18 skill based competencies and soft skills of AETCOM. Integration of AETCOM skills into the existing competency -based undergraduate curriculum is the main highlight of seventh edition. Author have incorporated all the recent developments in the field of community medicine.

The basic sciences related to the subject of community medicine have been given a new outlook and linked with health-care delivery systems and various national health programmes. UN report on global warming is highlighted besides state of Global Air 2020 India. Chapter on nutrition has been restructured incorporating recent RDA by ICMR 2020. Research methodologies are integrated with chapter on basic statistics and its applications to facilitate building competencies. Chapters on epidemiology of CCDs and NCDs and related national health programmes have been clubbed into a single chapter. Recent guidelines on programmatic management of drug resistant tuberculosis in India are incorporated.

Chapter on recent advances incorporates India's response to Covid-19 pandemic and post-pandemic phase to build back better health infrastructure for future challenges.

This book covers all important aspects of public health which are mentioned in the revised undergraduate curriculum. This textbook will definitely help MBBS, MPH and MD students as well as Medical Officers and other Health Professionals.

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Upcoming Events

EFICON 2022 at King George's Medical University, Lucknow, Uttar Pradesh