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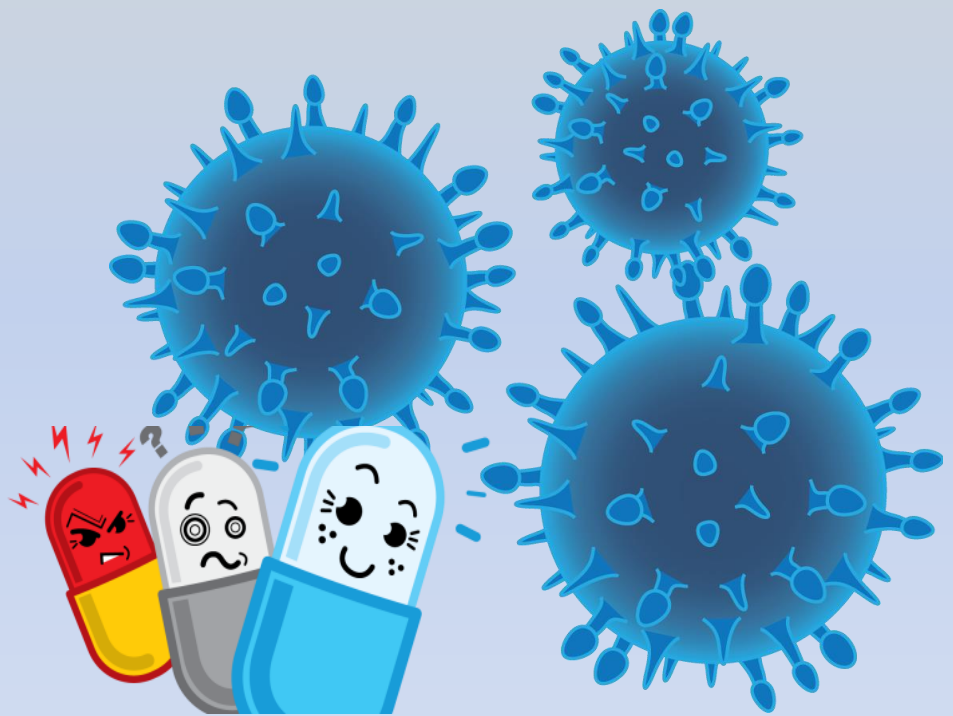


i-CARE Bulletin

(Initiative to Curb Antimicrobial Resistance)

An official publication of the **SEARPharm Forum**

Jan-Mar 2021 (Volume 2, Issue 2)

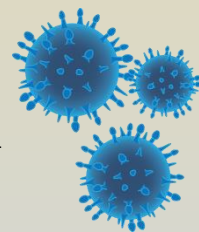


i-CARE Bulletin

An official quarterly e-news bulletin of SEARPharm Forum

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Objectives of SEARPharm Forum

A Forum of **FIP & WHO with National Pharmaceutical Association of the South East Asian Region (SEAR)** with objective to encourage and support a dialogue and collaboration among national and regional pharmaceutical associations in the South-East Asia region of WHO and WHO SEARO. Bangladesh, India, Indonesia, Sri Lanka and Thailand are the founding nations of SEAR Pharm Forum, while Bhutan, DPR Korea, Maldives, Myanmar, Nepal and Timor-Leste are invited members of the forum. The defined objectives are,

- Improving health in the South- East Asian region by development and enhancement of pharmacy practice (Good Pharmacy Practice).
- Encouraging the implementation of pharmacy service and pharmacy practice projects by national pharmaceutical associations.
- Supporting WHO-policies and goals.
- Integrating appropriate WHO policies into undergraduate, postgraduate, and continuing education programmes in pharmacy.
- Formulating policy statements on health issues.
- Combating the production and distribution of counterfeit medicine and sale of medicine by people who are not qualified.

Official website: www.searpharm.org.



About i-CARE Bulletin: The objective of i-CARE Bulletin (a quarterly publishing e-news bulletin) is to disseminate the new knowledge and practices evolved to curtail antimicrobial resistance (AMR) and will address the issues in primary health care support, medication errors, rational use of medicine, case studies, utilization of skills of pharmacists, use of off label drugs and legislation, disposables and medical devices and internet pharmacies.

The i-CARE Bulletin structure is designed with primary focus on insights on antimicrobial resistance and health care activities of various organizations in SEA region, news related to initiatives of WHO, FIP, Common wealth association, SEARPharm Forum and its members /pharmaceutical associations. i-CARE Bulletin accepts, in English, review articles, articles for educational forum, short communications), letter to editor, case reports and interesting fillers. Articles concerning all aspects of antimicrobial resistance will be considered.

Manuscript Submission procedure: Authors should keep their manuscripts as short as possible. Manuscript should be typed, double-spaced with 1" margins on all sides. The manuscript shall be prepared in Times New Roman font using a font size of 12. Title shall be in a font size 14. The pages shall be numbered consecutively with arabic numbers. The language of manuscript must be simple and explicit in English.

Review Articles and Educational Forum: The authors should review the recent trends or advances in that field in the light of their own work. These articles should contain a covering letter, title page, summary and key words.

Short Communications and Correspondence: This small research communication or a commentary, should contain a covering letter, title page, summary (need not be structured) and key words. They should be in a way of IMRaD format.

References: References are to be cited in the text by superscribed number and should be in the order in which they appear. The number of references should normally be restricted to a maximum of 20. Majority of them should preferably be of articles published in the last 10 years. The references must be verified by the author(s) against the original documents. The list of references should be typed double spaced in the Vancouver style. All the references, figures and tables in the text shall be numbered consecutively as they first appear.

All submissions shall be forwarded as email attachment to icaresear@gmail.com

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T.V. Narayana
President
SEARPharm Forum

Dear Readers,

Greetings from SEARPharm Forum

We started this year 2021 with lot of hope on everything to get better and were prepared ourselves to normalcy. But things took diversion and differently turned and Now, we are in loop of second wave of covid-19 in the worse way, especially India.

The situations are getting worsen day by day because the scarcity of hospitals, medicines, oxygen, etc., and we hope by September 2021, we will be back to normal.

However, It is difficult for every one of us to remain positive when we see around our dear and near people are losing their loved ones, unfortunately due to the shortage of medical help at hospital set-up. Obviously, this second wave is different from the last year COVID wave. Going through the media and newspapers scrolling, there is lot of public fear on COVID-19 Vaccination.

“Let vaccinate our self and educate our dear and near to save our life and loved one from future COVID-19 waves, perhaps if it happens”

T.V. Narayana
President
SEARPharm Forum

Editorial Desk....

Dear Readers,

Warm greetings.

Our warm wishes and wishing you safe journey through this second wave of COVID-19 Pandemic.

We are obvious, we need to be remained vital for our health care system to continue caring for all patients while mitigating their exposure to potential sources of infection and educating the public on how to avoid the disease spread.

In this Issue 1 of Volume 2, (Jan-Mar 2021) We read, the President's message from SEARPharm Forum on the importance of COVID-19 Vaccination and he shared the views on second wave COVID-19.

We added two article that emphasized as question and answer from WHO for better understanding of COVID-19 vaccines and then followed by an article on antievolution strategy in antimicrobial resistance.

We appreciate and would like to take this moment to thank all of you on the front lines of fighting the pandemic, and caring for people affected by it.

We encourage you all to Vaccinate against COVID-19 to make our self and dear and near safer in future.

Best Regards,

Dr P Ramalingam
Editor

Dr Mohanraj M Rathinavelu
Dr G Sumalatha
Associate Editors

Questions and Answers on COVID-19 Vaccine – As per World Health Organization (WHO)

Bogireddy Sahithi

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Is there a vaccine for COVID-19?

Yes, there are now several vaccines that are in use. The first mass vaccination programme started in early December 2020. At least 13 different vaccines (across 4 platforms) have been administered. The Pfizer/BioNtech Comirnaty vaccine was listed for WHO Emergency Use Listing (EUL) on 31 December 2020. The SII/Covishield and AstraZeneca/AZD1222 vaccines (developed by AstraZeneca/Oxford and manufactured by the State Institute of India and SK Bio respectively) were given EUL on 16 February. The Janssen/Ad26.COV 2.S developed by Johnson & Johnson, was listed for EUL on 12 March 2021. The Moderna COVID-19 vaccine (mRNA 1273) was listed for EUL on 30 April 2021 and the Sinopharm COVID-19 vaccine was listed for EUL on 7 May 2021. The Sinopharm vaccine is produced by Beijing Bio-Institute of Biological Products Co Ltd, subsidiary of China National Biotec Group (CNBG). The Sinovac-CoronaVac was listed for EUL on 1 June 2021.

When will COVID-19 vaccines be ready for distribution?

The first COVID-19 vaccines have already begun to be introduced in countries. Before COVID-19 vaccines can be delivered:

The vaccines must be proven safe and effective in large (phase III) clinical trials. Some COVID-19 vaccine candidates have completed their phase III trials, and many other potential vaccines are being developed.

Independent reviews of the efficacy and safety evidence is required for each vaccine candidate, including regulatory review and approval in the country where the vaccine is manufactured, before WHO considers a vaccine candidate for prequalification. Part of this process also involves the Global Advisory Committee on Vaccine Safety. In addition to review of the data for regulatory purposes, the evidence must also be reviewed for the purpose of policy

recommendations on how the vaccines should be used. An external panel of experts convened by WHO, called the Strategic Advisory Group of Experts on Immunization (SAGE), analyzes the results from clinical trials, along with evidence on the disease, age groups affected, risk factors for disease, programmatic use, and other information. SAGE then recommends whether and how the vaccines should be used. Officials in individual countries decide whether to approve the vaccines for national use and develop policies for how to use the vaccines in their country based on the WHO recommendations. The vaccines must be manufactured in large quantities, which is a major and unprecedented challenge – all the while continuing to produce all the other important life-saving vaccines already in use. As a final step, all approved vaccines will require distribution through a complex logistical process, with rigorous stock management and temperature control.

Will COVID-19 vaccines provide long-term protection?

Because COVID vaccines have only been developed in the past months, it's too early to know the duration of protection of COVID-19 vaccines.

Research is ongoing to answer this question. However, it's encouraging that available data suggest that most people who recover from COVID-19 develop an immune response that provides at least some period of protection against reinfection – although we're still learning how strong this protection is, and how long it lasts.

How quickly could COVID-19 vaccines stop the pandemic?

The impact of COVID-19 vaccines on the pandemic will depend on several factors. These include the effectiveness of the vaccines; how quickly they are approved, manufactured, and

delivered; the possible development of other variants and how many people get vaccinated. Whilst trials have shown several COVID-19 vaccines to have high levels of efficacy, like all other vaccines, COVID-19 vaccines will not be 100% effective. WHO is working to help ensure that approved vaccines are as effective as possible, so they can have the greatest impact on the pandemic.

What types of COVID-19 vaccines are being developed? How would they work?

Scientists around the world are developing many potential vaccines for COVID-19. These vaccines are all designed to teach the body's immune system to safely recognize and block the virus that causes COVID-19.

Several different types of potential vaccines for COVID-19 are in development, including:

- Inactivated or weakened virus vaccines, which use a form of the virus that has been inactivated or weakened so it doesn't cause disease, but still generates an immune response.
- Protein-based vaccines, which use harmless fragments of proteins or protein shells that mimic the COVID-19 virus to safely generate an immune response.
- Viral vector vaccines, which use a safe virus that cannot cause disease but serves as a platform to produce coronavirus proteins to generate an immune response.
- RNA and DNA vaccines, a cutting-edge approach that uses genetically engineered RNA or DNA to generate a protein that itself safely prompts an immune response.

Will other vaccines help protect me from COVID-19?

Currently, there is no evidence that any other vaccines, apart from those specifically designed for the SARS-Cov-2 virus, will protect against COVID-19. However, scientists are studying whether some existing vaccines – such as the

Bacille Calmette-Guérin (BCG) vaccine, which is used to prevent tuberculosis – are also effective for COVID-19. WHO will evaluate evidence from these studies when available.

What are the benefits of getting vaccinated?

The COVID-19 vaccines produce protection against the disease, as a result of developing an immune response to the SARS-Cov-2 virus. Developing immunity through vaccination means there is a reduced risk of developing the illness and its consequences. This immunity helps you fight the virus if exposed. Getting vaccinated may also protect people around you, because if you are protected from getting infected and from disease, you are less likely to infect someone else.

Can we stop taking precautions after being vaccinated?

Vaccination protects you from getting seriously ill and dying from COVID-19. For the first fourteen days after getting a vaccination, you do not have significant levels of protection, then it increases gradually. For a single dose vaccine, immunity will generally occur two weeks after vaccination. For two-dose vaccines, both doses are needed to achieve the highest level of immunity possible.

While a COVID-19 vaccine will protect you from serious illness and death, we are still learning about the extent to which it keeps you from being infected and passing the virus on to others (transmission). The data that is emerging from countries is showing that the vaccines that are currently in use are protecting against severe disease and hospitalization. However, no vaccine is 100% effective and breakthrough infections are regrettable, but to be expected.

The current evidence shows that vaccines provide some protection from infection and transmission, but that protection is less than that for serious illness and death. We are still learning also about the variants of concern and whether the vaccines are as protective against these

strains as the non-variant virus. For these reasons, and while many of those in the community may not yet be vaccinated, maintaining other prevention measures is important especially in communities where SARS CoV-2 circulation is significant. To help keep you and others safe, and while efforts continue to reduce viral transmission and ramp up vaccine coverage, you should continue to maintain at least a 1-metre distance from others, cover a cough or sneeze in your elbow, clean your hands frequently and wear a mask.

Can I have the second dose with a different vaccine than the first dose?

Clinical trials in some countries are looking at whether you can have a first dose from one vaccine and a second dose from a different vaccine. There isn't enough data yet to recommend this type of combination.

Can the COVID-19 vaccine cause a positive test result for the disease, such as for a PCR or antigen test?

No, the COVID-19 vaccine will not cause a positive test result for a COVID-19 PCR or antigen laboratory test. This is because the tests check for active disease and not whether an individual is immune or not. However, because the COVID-19 vaccine prompts an immune response, it may be possible to test positive in an antibody (serology) test that measures COVID-19 immunity in an individual.

Should I be vaccinated if I have had COVID-19?

Even if you have already had COVID-19, you should be vaccinated when it is offered to you. The protection that someone gains from having COVID-19 will vary from person to person, and we also don't know how long natural immunity might last.

Is the vaccine safe for children?

Vaccines are usually tested in adults first, and

only later assessed in children when safety has been proven in adults, because children are still developing and growing. COVID-19 has also been a more serious and dangerous disease among older people. Now that the vaccines have been determined to be safe for adults, they are being studied in children.

WHO's Strategic Advisory Group of Experts (SAGE) has concluded that the Pfizer/BionTech vaccine is suitable for use by people aged 12 years and above. Children aged between 12 and 15 who are at higher risk of severe COVID-19 may be offered this vaccine alongside other priority groups for vaccination. Vaccine trials for children are ongoing and WHO will update its recommendations when the evidence or epidemiological situation justifies a change in policy.

While the supply of vaccines is limited, the ongoing priority is to vaccinate those most at risk of serious illness who still have not been vaccinated in many parts of the world: older people, those with chronic health conditions, and health workers.

Most children are at low risk of serious disease and vaccinating them is primarily about reducing transmission, which can also be achieved through public health measures, including: physically distancing from others, cleaning hands frequently, sneezing and coughing into their elbow, wearing a mask if age appropriate and avoiding crowded, poorly ventilated spaces.

Do the vaccines protect against variants?

More studies are needed to assess the effectiveness of the current COVID vaccines against the variants. A growing body of data suggests that most vaccines stimulate enough immunity to retain substantial efficacy against most variants, especially for severe disease, hospitalization, and death. The impact of the variants on efficacy against mild disease and against infection without disease is more impacted than for the more severe outcomes.

The reason vaccines substantially retain

protection against disease is likely related to the broad immune response they induce, which means that virus changes or mutations are unlikely to make vaccines completely ineffective. If any of these vaccines become less effective against one or more variants, it will likely be possible to change the composition of the vaccines to protect against these variants, however this will take time and additional data to fully evaluate. Data continues to be collected and analysed on new variants of the COVID-19 virus. WHO will update its guidance when more details are known about the impact of specific variants on specific vaccines. WHO's SAGE is reviewing this evidence on a regular basis.

While we are learning more, we need to do everything possible to stop the spread of the virus in order to prevent mutations that may reduce the performance of existing vaccines. This means staying at least 1 metre away from others, covering a cough or sneezing in your elbow, frequently cleaning your hands, wearing a mask and avoiding crowded, poorly ventilated rooms or opening a window.

Does the vaccine cause different side effects in men and women? Does age have an impact?

The effect of the COVID-19 vaccine varies from person to person, like it does for most vaccines. As more people get vaccinated, we may be able to determine patterns. This information continues to be collected and will be shared, but for now, we cannot anticipate who may have side effects.

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Does having side effects mean that the vaccine is working? What does having no side effects mean?

The vaccine stimulates your immune system to protect you from the virus. This process can sometimes cause side effects like fever, chills or headache, but not everyone experiences this. The presence or magnitude of the reaction you may have vaccination does not predict or reflect your immune response to the vaccine. You do not have to have side effects in order to be protected.

Should we eat or drink differently the day or two after getting vaccinated?

The effectiveness of the vaccine is not dependent on any food or drink before or after taking the vaccine.

Disclaimer

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Targeting Reactive oxygen Species – Antievolution drug discovery Strategy to combat drug resistance

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Today, a multitude of pathogenic microorganisms have almost developed drug resistance to the existing classes of antimicrobial drugs. The spontaneous mutation of microbes over a period of time resulted in an era of antibiotic crisis not only limited to bacterial infections but also to tuberculosis, malaria, viral, and fungal infections. Thus, the new generation antimicrobial drugs needs to target the microbes with novel mechanisms to curtail the antimicrobial resistance (AMR).¹ AMR is responsible for 700,000 deaths annually. It is also predicted that the mortality rate could reach up to 10 million by 2050 if no appropriate measures are taken.² A list of "priority pathogens" published by WHO³ exposed the jeopardy associated with 12 families of life-threatening multi-drug resistant bacteria, especially, the gram-negative species that are extremely resistant to multiple antibiotics. Some of the most typical families of bacteria such as *Acinetobacter*, *Pseudomonas*, *Klebsiella*, *E. coli*, *Serratia*, and *Proteus* pose a severe challenge to the medical community as they are the common cause of fatality due to nosocomial and ventilator acquired infections. The drug-resistant mechanisms of these organisms could be often transmitted with genetic material, allowing others to become drug-resistant too. Although the search for unconventional antimicrobial drugs remains a top priority, the pipeline for new antibiotics is not yet promising and promising and demands alternative solutions.³ At this juncture, the need for new antibiotics suitable to combat resistant pathogens is emphasised. However, researchers notified those pathogenic bacteria and other microbe have the ability to develop resistance to all drugs, including newly introduced antibiotics.

For example, *Mycobacterium tuberculosis* (Mtb) can mutate at a faster rate to generate tougher strains that are resistant to newly developed drugs.⁴ Albeit, there is a way to attenuate the emergence of drug resistance.

Evolution is the driving force towards the development of drug resistance. It makes the cells stronger and implicates replicative immortality. In general, microbes and cancer cells develop drug resistance by building reinforced cell walls and efflux pumps. Until recently, the drug discovery is targeted to inhibit the efflux pumps or to perforate the cell walls, which eventually failed. After the discovery of certain critical mechanisms involved in the evolution of resistance, the research is now taking a paradigm shift. Now the primary focus is not only to kill but also to stop the evolution of microbes and the cancer cells in an attempt to curb the development of multidrug resistance. The scientists have recently found anti-evolution mechanisms which could prevent the pathogenic microbes from ratcheting up their shields against the new drugs. Antievolution drugs are adjuvants that require concomitant administration with antimicrobial drugs. An antibiotic kills or inhibits the proliferation of cells, whereas antievolution drug keeps manipulating the microorganisms from evolving and make them vulnerable to the immune attack.

Targeting ROS

In addition to the antimicrobial action, antibiotics can also expedite the genetic variability in bacteria. Conversely, the probability of acquiring drug resistance is intensified as a result of genetic variability. Fudging the physiological responses that influence such genetic changes is a way to

impede the resistance to drugs. Inhibition of topoisomerase II (TPI2) can induce the SOS response, in turn, upregulates the DNA translesion synthesis (TLS) in *Escherichia coli*. Eventually, the SOS response generated by fluoroquinolones (TPI2 inhibitors) promotes the erroneous DNA replication mediated by TLS polymerases in the resistant strains of *E. coli*. Further, fluoroquinolones have been shown to increase the production of reactive oxygen species (ROS), an additional mechanism of antibacterial action. ROS production is increased in the presence of destabilized iron-sulphur clusters.⁵ Both SOS response and ROS are playing a pivotal role in microbial mutagenesis and triggering the emergence of drug-resistant mutants during treatment with fluoroquinolones. Few recent studies reported new agents for diminishing the mutagenic effect in microbes through modulation of ROS production and the SOS response.^{6,7} The ROS in microbes instigates the sigma-S(sS) mediated mutagenic DNA break repair (MBR) mechanism triggered by dsDNA breaks as a result of exposure of the organism to ciprofloxacin.

Researchers found that the ROS-reducing drug edaravone inhibits ciprofloxacin induced mutagenesis at a concentration of 100 mM. Edaravone reduced the appearance of sS-rich cells, sS-fusion protein, and ROS-rich cells in a microbial culture. Importantly, edaravone did not affect the antibiotic activity of ciprofloxacin, means it removes the ROS in the sS-high subpopulation, without affecting the potency of antibiotic. Edaravone serves as prototype small molecule inhibitor of mutagenesis that could be concomitantly administered with ROS inducing antibiotics to prevent the development of sS-mediated drug resistance.⁸

Further, ROS mediated evolution in *E. coli* by ciprofloxacin induced mutagenesis was inhibited by ROS scavenging agents like thiourea and 2,2'-bipyridine.^{8,9} An *E. coli* strain IBDS1 and its isogenic mutant deprived of SOS mutagenesis mediated TLS were treated with multiple concentrations of ciprofloxacin, N-acetylcysteine or both in combination.

The result revealed that N-acetylcysteine

diminished the levels of intracellular ROS (~40%), SOS activation (~75%), and bacterial filamentation produced by subinhibitory concentrations of ciprofloxacin.

Notably, the SOS-mediated mutagenesis was completely abolished by N-acetylcysteine without affecting the antibacterial activity of ciprofloxacin.¹⁰ Thus, edaravone and N-acetylcysteine can be used as an 'anti-evolvability' drugs.

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Transformative strategies for student-centered learning:- The need of hour is new wine into new bottles.

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Learning in childhood is formative, i.e., governed by formal sources of authority and socialization. Similar formative curriculum, assessment, competencies of adulthood learning program is still prevalent. The transition process of adulthood learning into principles of transformative is still deficit and lack agreement among the authorities in many educational systems around the world. Despite scientific evidence clearly stated that significant retention of knowledge and skills had happened best in transformative education strategies such as a) teach others b) practice doing and c) discussion etc.

The current teaching and learning mostly emphasized into a) lecture b) reading c) audio-visual and d) demonstration: the non-significant methods for teaching and learning related to competencies retention and translation into practice.

The disciplinal content-oriented curriculum exercised (transmitted) by source rich teacher, no doubt, turn any learner into passive recipient, intelligent and to attain best prescribed behaviours, with so called competent to practice. This will not suffice the process of learning and contributing to health care or education system and nation.

In learner-centered pedagogy where teacher as facilitator of learning with problem posing approach using socio-cultural conditions, formulating vivid experiences to enrich learner into active, co-creator and negotiated authority in class room. The output process of curriculum would churn and lead a constructivist, personal and social transformed learner where his or her view of knowledge would be contextual, pleural and lasting application on various systems, not limited into so called specialized knowledge and competency. The product also will be

self-directed learner with no stop on skills of life-long learning.

Developing countries with resilient learners, can fast forward their growth and development for their various national indicators. The production of life-long learners is best predictable and logically possible when learning systems are revitalized with transformative education principles and strategies.

The time-tested transformative education principles were readily available and need of hour in to drive and incorporate these strategies into socio, economic and culturally specific action. The proponents currently and readily available are Jack Mezirow and Paulo Freire. The 10 steps approach of former embedded with every step positive feedback on learners, starting from creating 'disorienting dilemma' to 'trying new roles' mostly emphasized on building competence and confidence.

Critical pedagogy by later emphasize the focus on root causes, deeper meaning, ideology, consequence of any action, event, object, process organization, experience, text, policy, mass media or discourse (Ira shor on empowering education with Paulo Freire). Learning should be mutually conversational, accessible to learning contexts, and centered on experiences of the students as well as teachers – (Paulo Freire 2000).

M.K. Gandhi on education clearly articulated that "Literacy is no education, education is that visibly distinguishes man from beast, i.e., good from bad, which infer to differentiating political propaganda, and colonial imprints associated with even in current conventional curriculum, resounds with Paulo Freire.

There are competing priorities such as a) attainment and allocation of maximal effort for

content specific competencies, and absence or absence of measurement on b) longitudinal assessment on community and socio-cultural perspectives c) network and teamwork abilities and d) critical thinking to produce change in current system etc.

In a student-centered curriculum offers learner a viable and irreplaceable opportunity to Generating themes, i.e., contributing to develop sociocultural curricular content, provide medium to critical dialogue between teachers and students and problem-based learning as main instructional method. The current PBL strategies used in most medial schools are revolves around transformative education and derived it seeds from the proponents of transformative education tenants. However necessary modification were brought in, such as team work and etc. Research competencies in Transformative education based on to what extent the research contributes to indicator of quality of life, public policy and economic growth etc.

Engaging these strategies will provide varieties of learning opportunities to achieve course specific learning outcomes that could support overarching goal of the course as well as program, which will further overarch the national agenda.

Afterall it is need of hour now, all stakeholders put new wine, i.e., learner of this century into new bottles, i.e., robust transformative system and hence both are preserved, directed for quality enhancement for the better return on investment in education for the community. While the report focuses on health care education, the challenges highlighted will be familiar to education leaders across the developing countries of various discipline. Disclaimer: Opinions are solely their own, do not reflect any affiliation associated with me.

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News & Announcements

Source: <https://www.who.int/southeastasia/news/releases>

Protect yourself and others from COVID-19

If COVID-19 is spreading in your community, stay safe by taking some simple precautions, such as physical distancing, wearing a mask, keeping rooms well ventilated, avoiding crowds, cleaning your hands, and coughing into a bent elbow or tissue. Check local advice where you live and work. Do it all!

3 FACTORS TO HELP YOU MAKE SAFER CHOICES

WHEN YOU'RE IN AN AREA OF WIDESPREAD COVID-19 TRANSMISSION

LOCATION

SAFER ————— LESS SAFE

Open air spaces safer than enclosed spaces

PROXIMITY

SAFER ————— LESS SAFE

Farther away from others safer than close together

TIME

SAFER ————— LESS SAFE

Shorter time periods with others are safer

REMEMBER, IT'S ALWAYS SAFER TO:

KNOW YOUR RISK. LOWER YOUR RISK.

World Health Organization

If you have been diagnosed with **COVID-19**:

- stay in a separate room and away from others
- open windows frequently

Know your risk, lower your risk

World Health Organization

News & Announcements

What is COVAX?

With a fast-moving pandemic, no one is safe, unless everyone is safe.

COVAX is co-led by CEPI Gavi and WHO, alongside key delivery partner UNICEF. In the Americas, the PAHO Revolving Fund is the recognized procurement agent for COVAX.

CEPI



unicef



COVAX is the vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator

The ACT Accelerator is a ground-breaking global collaboration to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines. COVAX is co-led by Gavi, the Coalition for Epidemic Preparedness Innovations (CEPI) and WHO. Its aim is to accelerate the development and manufacture of COVID-19 vaccines, and to guarantee fair and equitable access for every country in the world.

Why we need COVAX

Developing a vaccine against COVID-19 is the most pressing challenge of our time - and nobody wins the race until everyone wins. The global pandemic has already caused the loss of hundreds of thousands of lives and disrupted the lives of billions more. As well as reducing the tragic loss of life and helping to get the pandemic under control, introduction of a vaccine will prevent the loss of US\$ 375 billion to the global economy every month. Global equitable access to a vaccine, particularly protecting health care workers and those most-at-risk is the only way to mitigate the public health and economic impact of the pandemic.

What COVAX offers

- Doses for at least 20% of countries' populations
- Diverse and actively managed portfolio of vaccines
- Vaccines delivered as soon as they are available
- End the acute phase of the pandemic
- Rebuild economies

Resource: <https://www.who.int/initiatives/act-accelerator/covax>

WHO- New Guidelines on Systematic Tuberculosis Screening

In the run up to World TB Day, WHO has released new data from over 84 countries on the impact of the COVID-19 pandemic on the TB response and launched new guidelines on systematic TB screening to help countries bridge the gap in diagnosis and care. The new guidelines on systematic TB screening and accompanying operational handbook provide TB and HIV programmes with a range of new TB screening tools to enhance the early detection of TB among people with HIV.

WHO, Geneva 24 March 2021

International Pharmaceutical Federation-FIP

Source: <https://www.fip.org/news>

New global overview on digital health in pharmacy education lays foundation for advancement, FIP says

A large proportion of pharmacy schools and faculties do not yet offer digital health education or training, according to the findings of a survey by the International Pharmaceutical Federation (FIP) published today. The findings are presented in a new report “FIP digital health in pharmacy education: Developing a digitally enabled pharmaceutical workforce”.

The survey, which was completed by 1,060 pharmacy schools, faculty members, students and practitioner groups from 91 countries, investigated the readiness and responsiveness of pharmacy education with regard to digital health and identified knowledge and skills gaps in the pharmaceutical workforce. The survey also found that many practitioners are lacking familiarity with emerging digital health technologies such as blockchain, bots, digital medicines and artificial intelligence, and only a small fraction of these respondents had received continuous educational development on digital health.

27 January 2021 FIP

FIP develops tool to support regulators in implementing pharmacy-based vaccination programmes to combat pandemic

Ministries of health and regulators can from today make use of a tool produced by the International Pharmaceutical Federation (FIP) to enhance strategies and create the necessary regulatory frameworks to combat the COVID-19 pandemic through pharmacist-led vaccination programmes. The resource has been developed based on the experiences of regulators in countries where pharmacy-based vaccination and testing have been successfully introduced and regulated.

“As highly accessible healthcare professionals located in small and large communities around the world, pharmacists can greatly contribute to public health and bringing pandemics under control. A number of countries have recognised the value of harnessing the potential of the pharmacy profession through pharmacy-based vaccination programmes but many more could do so. However, successful strategies that involve pharmacists need to be grounded in public protection, quality of care and an in-depth understanding of needs at country level with regard to vaccination and testing services. Resource requirements, such as workforce qualifications and training, infrastructure and funding, also need to be considered,” said Mr Ronald Guse, chair of FIP’s Forum of Professional Regulators.

4 February 2021 FIP

Value of pharmacist-led medicines reconciliation highlighted by new toolkit from FIP

A toolkit for medicines reconciliation, released today, is the latest resource produced by the International Pharmaceutical Federation (FIP) to support pharmacists in improving patient safety and contribute to the World Health Organization’s (WHO’s) third Global Patient Safety Challenge — “Medication without harm”. Under this programme of change, the WHO lists care transitions as one of three priority areas that need effective action in order to protect patients.

<https://www.fip.org/file/4949>

18 February 2021 FIP

International Pharmaceutical Federation-FIP

Source: <https://www.fip.org/news>

Trust to be the focus of World Pharmacists Day 2021:

“Pharmacy: Always trusted for your health”

will be the theme of World Pharmacists Day on 25 September, the International Pharmaceutical Federation (FIP) announced today.



Trust barometers have found that distrust of societal leaders has increased and distrust of information sources is at a record high, fuelled by the COVID-19 pandemic and the infodemic around it. At a time of uncertainty and when vaccines hesitancy remains a major hurdle, public trust in pharmacy is more important than ever.

For many years, pharmacists have consistently been named among the top five most trusted professionals in national surveys. Educators are also consistently in the top five and, according to a recent survey, scientists are the most trusted people in the world. “Pharmacists, educators and scientists — that’s our pharmacy profession,” said FIP president Mr Dominique Jordan.

This year’s World Pharmacists Day campaign is an opportunity for pharmacy to show appreciation for the trust placed in the profession and increase awareness of this trust and pharmacists’ vital role in improving health.

“Evidence indicates a significant association between trust in healthcare professionals and health outcomes for patients. Pharmacy has built up a reserve of trust over many years of caring, positive relationships, expertise and excellent practice, all delivered with consistency. We can put this trust to good use in countering the anti-vaxxers as well as in continuing to improve the health of our communities in general. I invite all my colleagues around the world to join this year’s campaign and spread these important messages,” Mr Jordan added.

More information and campaign materials click: www.fip.org/world-pharmacists-day. This year, FIP is also holding its second World Pharmacy Week (19 to 25 September), which will celebrate the pharmacy profession with a programme of special events to be announced later this year.

25 March 2021 FIP

International Pharmaceutical Federation-FIP

Source: <https://www.fip.org/news>

93 days before World Pharmacists Day, we launch FIP's "193 in 93 Challenge"!



"Pharmacy: Always trusted for your health" is the theme of this year's World Pharmacists Day on 25 September 2021.

Join us on 25 September to show your appreciation for the trust in our profession and to make this and our vital role in improving health known in every corner of the world!

[Be a WPD2021 champion](#)



WORLD 25 SEPTEMBER
PHARMACISTS DAY



Pharmacy

Always trusted
for your health



TRUST IS ESSENTIAL TO HEALTH CARE

There's a significant
association between
trust in healthcare
professionals and health
outcomes for patients.

Good news!

- For several years, pharmacists have been named among the top five most trusted professionals.
- Educators are also consistently in the top five.
- A recent survey named scientists as the most trusted people in the world.

The following graphic represents where pharmacists rank in terms of trusted professions in different countries. For example, they have been voted the 2nd most trusted profession in Turkey and the UK.



**PHARMACISTS,
EDUCATORS AND
SCIENTISTS? THAT'S
OUR PHARMACY
PROFESSION!**

Reference: https://www.fip.org/files/content/advocacy/WPD_2021_Trust_Factsheet.pdf

OUR PHARMACY PROFESSION



Pharmacists

Trusted to help you to get the best from your medicines and stay healthy.



Pharmaceutical scientists

Trusted to develop safe and effective medicines that save lives and change them for the better.



Pharmacy educators

Trusted to deliver competent and caring pharmacy professionals.

Pharmacists have all three elements needed for trust



1 Positive relationships

Our genuine interest in our patients and time taken to listen to their needs, as well as our extra efforts during the COVID-19 pandemic, have helped us to establish meaningful connections and continue to build positive relationships.



2 Competency/expertise

We are the experts in medicines management. We typically complete a four-year Master of Pharmacy degree or a doctorate in pharmacy, followed by a preregistration year/internship. Once registered, we undertake lifelong learning or further training to become more specialised.



3 Consistency

As the most accessible healthcare provider in many parts of the world, working in premises that operate longer working hours than many other healthcare facilities, we and our pharmacies are more able to demonstrate, consistently, our skills and caring.



Reference: https://www.fip.org/files/content/advocacy/WPD_2021_Trust_Factsheet.pdf

NOW'S THE TIME TO FOCUS ON THAT TRUST

Trust is a reservoir of goodwill for future use, and pharmacy has built up a huge reserve over many years of caring and expert practice.

The COVID-19 pandemic and the infodemic around it have fuelled distrust. Trust barometers have found that distrust of societal leaders has increased and distrust of all information sources is at record highs.

At a time of uncertainty and when vaccines hesitancy remains a major hurdle, public trust in pharmacy is more important than ever before.



“ONE PHARMACY” IN TRUST, SOLIDARITY AND ACTION



On World Pharmacists Day this year:

- Show your appreciation for the trust placed in our profession.
- Spread the message about the value of trust in our profession.
- Tell people about pharmacy's role in improving health in every corner of the world.

JOIN OUR CAMPAIGN!

www.fip.org/world-pharmacists-day

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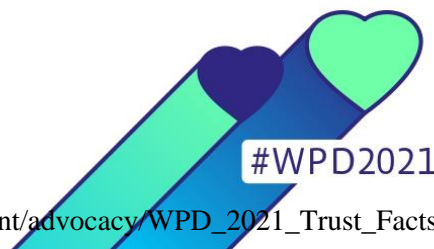
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WORLD 25 SEPTEMBER
PHARMACISTS DAY



Reference: https://www.fip.org/files/content/advocacy/WPD_2021_Trust_Factsheet.pdf





**THE INDIAN PHARMACEUTICAL
ASSOCIATION (IPA)**
...CRUSADE FOR THE PROFESSION

**IPA ANNUAL CONVENTION
IPAC 2021 VIRTUAL**
July 16 & 17, 2021

REIMAGING PHARMACY

in the 21st century:
Transformational changes ahead



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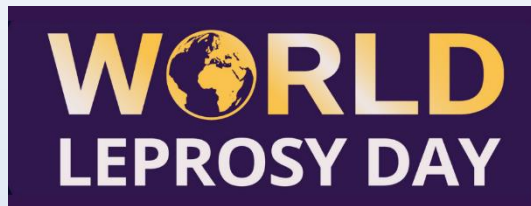


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Events & Advertisements



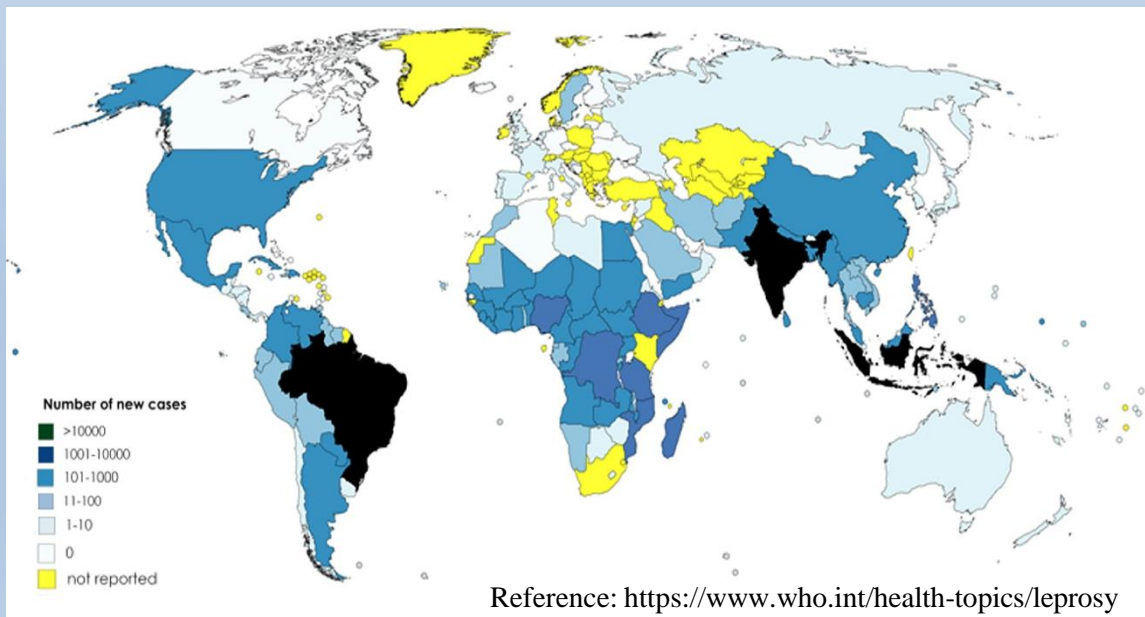
World Leprosy Day is observed on the last Sunday in January. The day was chosen by French humanitarian Raoul Follereau in 1953 to coincide with the anniversary of Mahatma Gandhi's death on 30th January 1948.

World Leprosy Day raises awareness of a disease that many people believe to be extinct. Today it is not just the disease that is forgotten, but the people too. Everyday nearly 600 more people are diagnosed with and start treatment for leprosy. In 2014, 213 899 people were diagnosed and it is estimated that millions more go undiagnosed.

This year, World Leprosy Day takes place on 31st January 2021. We unite around one goal: #BeatLeprosy. This World Leprosy Day, we invite you to help spread the word that #LeprosyIsCurable, join in the fight to #EndStigma, and advocate for the #MentalWellbeing of persons who have experienced leprosy and other neglected tropical diseases.

*In India, World Leprosy Day is celebrated on 30 January, the anniversary of Mahatma Gandhi's death.

Number of new Leprosy cases detected during 2018:



Events & Advertisements



World Birth Defects Day (WBDD), observed on March 3 each year, unites people and organizations working in the field of birth defects, also known as congenital anomalies, congenital disorders or congenital conditions. There are many types of birth defects and this day recognizes our collective voice in raising awareness for all birth defects (#manybirthdefects1voice).






The World Birth Defects Day (WBDD) movement seeks to move our collective efforts from simply raising awareness to mobilizing resources and commitment to improve birth defects surveillance, research, prevention and care.

Although started as an annual event in 2015, World Birth Defects Day has now become a movement. A WBDD movement is needed because continuous, active engagement of global, country, and region-based organizations is necessary to make significant improvements in birth defects prevention and care.

This movement is not bound by time or geography – it’s global and ongoing!

Birth Defects

An abnormality of body structure or function present since birth

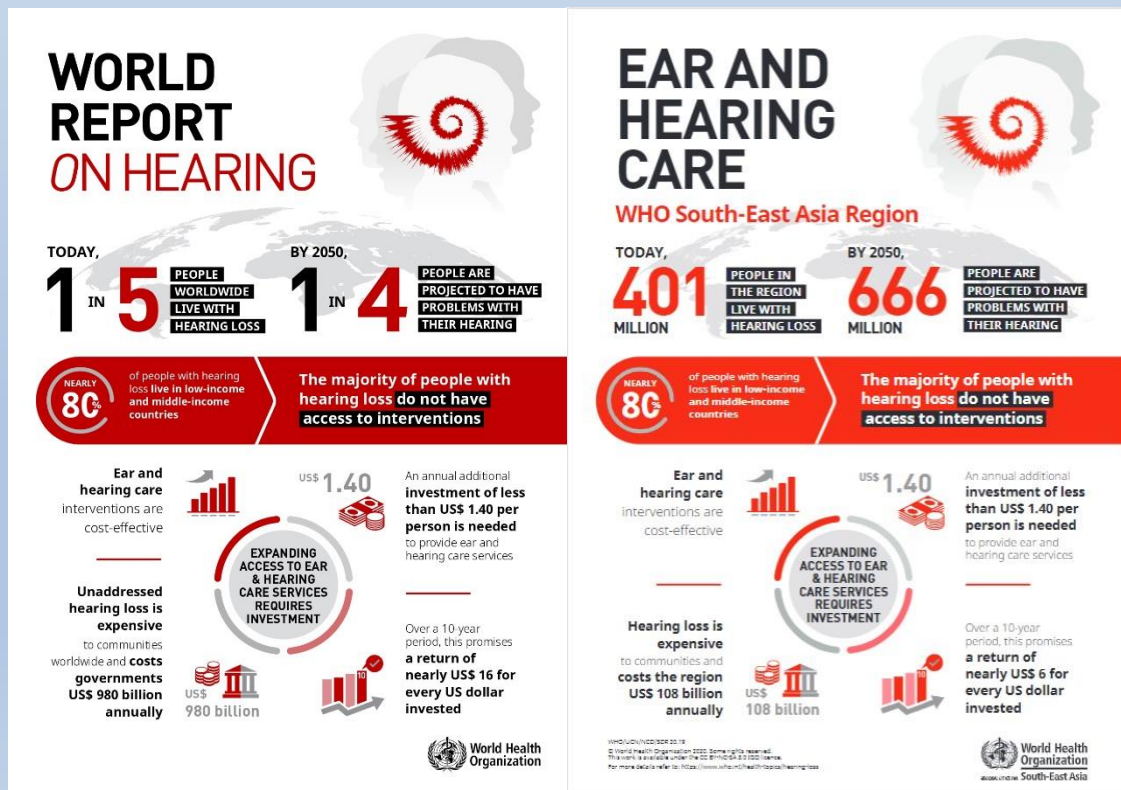
What should we know: Facts	What are we doing: WHO-SEARO	Prevent birth defects
<p>1 in 33 babies have birth defects</p>  <p>2 South-East Asia Region- nd highest prevalence of birth defects in the world</p>  <p>3 million babies worldwide die every year, due to birth defects</p> 	<p>➤ Regional Strategic Framework and National plans for prevention and control of birth defects</p>  <p>➤ Surveillance – Prevention – Care & Management</p>  <p>NBBD-Surveillance Newborn Birth Defects Database for Hospital-Based surveillance</p>  <p>~ 3.6 Million total births reported</p>  <p>~ 108 000 Stillbirths</p> <p>~ 38 000 babies with BD reported</p>	<p>If you are planning pregnancy Improve folic acid intake Do not take medicines without prescription</p> <p>Folic acid insufficiency causes serious conditions like Neural tube defects Ensure fortification of wheat flour with folic acid</p> <p>Rubella infection during pregnancy causes serious birth defects Get rubella vaccine before pregnancy</p> <p>Timely treatment and care can cure or minimize the effects of birth defects in your baby Seek early care for birth defects</p>
		

Events & Advertisements



World Hearing Day is held on 3 March each year to raise awareness of how to prevent deafness and hearing loss and to promote ear and hearing care across the world. Each year, the World Health Organization decides the theme. The theme for World Hearing Day in 2021 is “Hearing care for all!”.

World Hearing Day 2021 will mark the launch of the **first-ever World Report on Hearing**.



World Health Day 2021

7 April

Your health shouldn't be defined by where you live.



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