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KARNATAKA REGISTERED PHARMACISTS ASSSOCIATION®

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EDITORS' CHOICE

COVID-19 Vaccines developed in INDIA

Developed by	COVAXINTM, India's indigenous COVID-19 vaccine by Bharat Biotech is developed in collaboration with the Indian Council of Medical Research (ICMR) - National Institute of Virology (NIV).	COVID-19 Vaccine AstraZeneca [ChAdOx1 nCoV-19 Corona Virus Vaccine (Recombinant)] developed at Serums Institute of India.
Vaccine type	The vaccine is developed using Whole-Virion Inactivated Vero Cell derived platform technology. Inactivated vaccines do not replicate and are therefore unlikely to revert and cause pathological effects. They contain dead virus, incapable of infecting people but still able to instruct the immune system to mount a defensive reaction against an infection.	Recombinant, replication-deficient chimpanzee adenovirus vector encoding the SARS-CoV-2 Spike (S) glycoprotein. Produced in genetically modified human embryonic kidney (HEK) 293 cells. Following administration, the S glycoprotein of SARS-CoV-2 is expressed locally stimulating neutralizing antibody and cellular immune responses. This product contains genetically modified organisms (GMOs).
Approval stage:	A total of 375 subjects have been enrolled in the Phase 1 study and generated excellent safety data without any reactogenicity. Vaccine-induced neutralizing antibody titers were observed with two divergent SARS-CoV-2 strains. Percentage of all the side-effects combined was only 15% in vaccine recipients. In Phase 2 study, 380 participants of 12-65 years were enrolled. COVAXINTM led to tolerable safety outcomes and enhanced humoral and cell-mediated immune responses. Phase 3 clinical trial is on-going in 25,800 participants, and all the participants have received the first dose, as on 06th Jan 2021.	The overall safety of COVID-19 Vaccine AstraZeneca [ChAdOx1 nCoV-19 Corona Virus Vaccine (Recombinant)] is based on an interim analysis of pooled data from four clinical trials conducted in the United Kingdom, Brazil, and South Africa. At the time of analysis, 23,745 participants' ≥18 years old had been randomised and received either COVID-19 Vaccine AstraZeneca or control.

When you should not get the vaccine:

You should not get the BHARAT BIOTECH COVID-19 VACCINE (COVAXIN) if you:
Have any history of allergies.
Have fever.
Have a bleeding disorder or are on a blood thinner.
Are immune-compromised or are on a medicine that affects your immune system
Are pregnant.
Are breastfeeding.
Have received another COVID-19 vaccine.
Any other serious health related issues, as determined by the Vaccinator/ Officer supervising vaccination.

Tell the Vaccinator/ Officer supervising your vaccination about all of your medical conditions, including if you:
Are you on regular medication for any illness? If yes, for how long and for which condition? It is advisable not
to take the vaccine in any of these conditions
Have any allergies
Have fever
Have a bleeding disorder or are on a blood thinner
Are immunocompromised or are you on a medicine
that affects your immune system
Are pregnant
Are breastfeeding
Have received another COVID-19 vaccine

You should not get the COVISHIELD™ Vaccine if you:

- had a severe allergic reaction after a previous dose of this vaccine
- had a severe allergic reaction to any ingredient of this vaccine.

Tell the healthcare provider about all of your medical conditions, including: For intramuscular (IM) injection only.

- If you have ever had a severe allergic reaction (anaphylaxis) after any drug, food, any vaccine or any ingredients of COVI-SHIELD™ vaccine
- If you have fever,
- If you have a bleeding disorder or are on a blood thinner,
- If you are immunocompromised or are on a medicine that affects your immune system
- If you are pregnant or plan to become pregnant
- If you are breastfeeding
- If you have received another COVID-19 vaccine

Ingredients

Contains 6µg of whole-virion inactivated SARS-CoV-2 antigen (Strain: NIV-2020-770), and the other inactive
ingredients such as aluminum hydroxide gel (250 µg), TLR 7/8 agonist (imidazoquinolinone) 15 µg, TM 2-phenoxyethanol 2.5 mg, and phosphate buffer saline up to 0.5 ml. The vaccine (COVAXIN) thus has been developed by using inactivated/killed virus along with the aforementioned chemicals.

The COVISHIELD™ Vaccine includes the following ingredients with the recombinant
L-Histidine, L-Histidine hydrochloride monohydrate, Magnesium chloride hexahydrate, Polysorbate 80, Ethanol, Sucrose, Sodium chloride, Disodium edetate dihydrate (EDTA), Water for injection.

Dosage, Dose and dosing	The BHARAT BIOTECH COVID-19 VACCINE (COVAXIN) includes the following ingredients: COVAXINTM contains 6µg of whole-virion inactivated SARS-CoV-2 antigen (Strain: NIV-2020-770), and the other inactive ingredients such as aluminum hydroxide gel (250 µg), TLR 7/8 agonist (imidazoquinolinone) 15 µg, TM 2-phenoxyethanol 2.5 mg, and phosphate buffer saline up to 0.5 ml. The vaccine (COVAXIN) thus has been developed by using inactivated/killed virus along with the aforementioned chemicals. The BHARAT BIOTECH COVID-19 VACCINE will be given to you as an injection into the deltoid muscle of the upper arm. The BHARAT BIOTECH COVID-19 VACCINE (COVAXIN) vaccination series is 2 doses given 4 weeks apart.	The COVISHIELD™ Vaccine will be given to you as an intramuscular (IM) injection only, preferably in the deltoid muscle. The COVISHIELD™ vaccination course consists of two separate doses of 0.5 ml each. If you receive one dose of the COVISHIELD™ vaccine, then the second dose should be administered between 4 to 6 weeks after the first dose. However, there is data available for administration of the second dose up to 12 weeks after the first dose from the overseas studies. If you forget to go back at the scheduled time, ask your healthcare provider for advice. It is important that you return for your second dose of COVISHIELD™ vaccine.

Dr. Chandni Saha
Editor
KRPA Monthly Bulletin

Polypharmacy and Deprescribing in the Elderly

The quality of life in the elderly is of utmost importance in order to empower them to be independent and be able to carry out their day-to-day activities. A survey of 2,090 caregivers was conducted by the HelpAge India organisation across 20 cities reported that 25.7% of caregivers felt fatigued and frustrated towards their older relatives resulting in aggressive behaviour towards them. A total of 62% of them complained of a financial burden to meet the needs of the elderly and 35% of them never felt happy looking after the elderly. Studies have identified approximately 30% of the elderly are prescribed with 5 or more drugs. Polypharmacy may be beneficial but it also increases the risk of adverse drug reactions in the elderly as there are physiological changes due to ageing which alters the pharmacokinetic and pharmacodynamic response of the drugs in this population. Approximately 1 in 5 medications prescribed for the elderly may be inappropriate. It is identified that approximately 50% of the hospitalized or ambulatory care patients receive 1 or more unnecessary medications and it is observed that the documented adverse drug reactions in around 15% of the elderly contributed to their ill-health, disability, hospitalization, and in some cases, death.

Medication prescribing in the elderly is a complex process, where the potential benefits and potential harms of the medication have to be carefully considered. Polypharmacy is associated with increased hospitalisation and mortality and with an additional increase in the cost in the healthcare system. Polypharmacy is also associated with a potential reduction in medication adherence due to the increased number of prescribed medications. The optimal prescribing guide in the elderly would include deprescribing medications that are no longer indicated, appropriate, or aligned with goals of therapy. Deprescribing is defined as a systematic process of identifying and discontinuing drugs in which existing or potential harms outweigh existing or potential benefits within the context of the individual patient's care plan, current functioning status, life expectancy, and patient preferences. The goal of deprescribing in the elderly is to withdraw the drug without any harmful consequences and with possible improvement in the quality of life. Deprescribing is a patient-centred intervention, with inherent uncertainties, and requires shared decision making of the physician, pharmacist, patient, and patient's caregivers; and close monitoring of the effects after deprescribing is essential to prevent any withdrawal symptoms and other outcomes that may be detrimental to the patient's health-related quality of life.

All the elderly patients on polypharmacy may benefit from a medication review for deprescribing, but the frail elderly are of main interest in this process. Since the frail patients tend to be taking more medications and are more prone to have adverse reactions when compared to other elderly. Polypharmacy increases the risk for adverse drug events (ADEs) by 13%, 58%, 82% with 2, 5 and more than 7 medications respectively. The elderly tend to be 7 times more likely to have adverse drug events requiring hospitalization when compared with younger patients. Studies have shown up to 90% of ADEs were preventable.

Factors contributing to polypharmacy and adverse drug reaction

Multiple comorbid conditions, prescribing cascade, unclear deprescribing guidelines, medications that were started during hospitalization and are continued indefinitely, for example, antipsychotics for insomnia, proton pump inhibitors for nonsteroidal anti-inflammatory drugs use; and age-related altered pharmacokinetics.

The following questions need to be taken into consideration when initiating deprescribing

- Why and when was the therapy initiated?
- Was the diagnosis substantiated?
- Was the drug prescribed to counter adverse effects of another drug, i.e., is a prescribing cascade involved?
- Is the drug continuing to confer evident patient benefit?
- Are there alternatives available, equally effective non-pharmacological therapies?

Examples of deprescribing drugs include long-acting nitrates prescribed for a past episode of chest pain labelled as angina in patients with no objective evidence of coronary artery disease, antidepressants prescribed for a previous but resolved episode of reactive depression, use of antihypertensives in patients who are normotensive in response to lifestyle modifications. By eliminating the unnecessary medication, deprescribing may improve patient compliance and reduce the healthcare cost.

Deprescribing should be considered in the following conditions

- Patients presenting with new symptoms or clinical syndrome suggestive of adverse drug effects
- Advanced or end-stage disease, terminal illness, dementia, extreme frailty, or immobile
- Receiving high-risk drugs or combinations
- Receiving preventive drugs for scenarios associated with no increased disease risk despite drug cessation, for example, discontinuing alendronate therapy after 5 years of treatment.
- Drug use without any clinical benefit (therapeutic failure)

Barriers in deprescribing:

- Within prescriber-patient interactions, both are challenged by high levels of clinical complexity
- Limited consultation time
- Multiple prescribers
- Incomplete medication information
- Change in care goals
- Uncertainty about the benefits and harms of continuing or discontinuing specific drugs.

A systematic approach towards the medication review and rational deprescribing of the medication amongst the elderly patients is not only necessary to promote rational drug use but also to prevent unnecessary, preventable suffering and disability amongst elderly patients.

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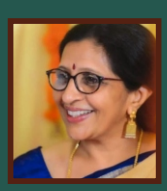

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PHARMACISTS AND Oral Care

Background: Kanak is a seasoned community pharmacist managing his retail pharmacy for about two decades. He has a reasonably stable loyal customer base who bought their medications and healthcare products for chronic disease management and other healthcare requirements. However, the dynamic market was never without a surprise element. First, it was the competition from many pharmacies opening up. Then came the pharmacy chains that provided discounts and now the online pharmacies were upsetting the apple cart. The dynamic online pharmacy websites excelled not only in providing the product range but also enticing the netizen visitor to try out other associated products thereby boosting revenue per customer and providing customer delight.

Kanak, keenly thought about what online pharmacies could not bring to the customer – he suddenly realized it was his human professional touch that could make a big difference to his pharmacy. Online pharmacies could not substitute Kanak's human touch!

Kanak makes a makeover

The word makeover means making a transformation. Kanak decided to pick up the online competition gauntlet in a unique way; he went in for a professional makeover. The first thing Kanak did was wash and iron the white pharmacist apron that he had never worn after obtaining his pharmacy diploma! He started to don this new apron look. His pharmacy was cluttered and slightly dark. Kanak bought new lighting to brighten his shop; he provided an attractive lighted frontage for his pharmacy and with renewed vigour made some interesting displays of pick-me-up healthcare products in his pharmacy. In short, he was committed to reinventing himself to survive the competition.

Kanak was hungry for knowledge

Kanak was a voracious reader of professional articles, one write-up stuck to his mind – '*The traditional role of pharmacists (i.e., dispensing medications) has evolved to include a broader range of functions associated with primary health care. Pharmacists are important members of the health care team and have an important role in addressing oral health-related problems. The pharmacist role in addressing oral health issues ... should be expanded*'. Ref.: https://pubmed.ncbi.nlm.nih.gov/23699681/. It is a well-known fact that pharmacists can play a key role in enhancing primary oral care delivery through counseling practice. He realized that there were many pharmacies providing extra services at their pharmacies to draw in customers. Some went in for partnership with companies like Himalaya to create interesting in-store displays and offered Ayurvedic products along with modern medicine products. Other pharmacist friends put in a robust veterinary and pet product range to augment their retail offerings. Still, others took inspiration from Health and Glow stores and started showcasing cosmetics and cosmeceuticals to attract customers through a distinguishing cachet. He decided to take inspiration and become the authoritative pharmacist with a compelling oral care range in his pharmacy; after all, the mouth is the gateway to health.

Redesigning the frontage!

Kanak took a bold step of putting up interesting poster displays on oral care from oral care companies and even put up oral care brand names near the store name. The appeal of his shop was that he provided a look and feel for the latest oral care products and also full-fledged information on the oral care products through pamphlets and leaflets. Such were the impelling aisles filled with oral care products in his pharmacy that any walk-in customer would get inspired to pick up products to boost his oral care and self-confidence. Kanak took great care to the position that oral care products were not only about alleviating tooth pain, but also enhancing oral care to eventually become more confident personalities. He ensured customers who interacted with him and his exhibited product range would just smile with hope and cheer.

Kanak: overwhelmed with the success

Knowledge breeds success and nothing succeeds like success. Kanak realized that pharmacy retailing was not just about stocking the products and providing them to buyers to earn his margin. Pharmacy practice was even more – it meant identifying the locational advantages and catering to a core group of target audience. Kanak built up his pharmacy practice to become the top-most choice for oral care products and other pharmacy products in his city. Seeing his success based on oral care products, other pharmacist colleagues got inspired to represent their pharmacies in a unique way to their patrons. A pharmacy located near an orthopedic hospital ensured to stock and showcase all ortho related products and devices thus becoming a bellwether pharmacy for orthopedic care; another pharmacy located near a prominent children's hospital redesigned its pharmacy look and layout, to give a cute pediatric touch so that parents and children patients would get impelled to bring the pediatric prescription only to his pharmacy. Thus, Kanak was a lodestar among pharmacists who shone through his oral care pharmacy specialty and general pharmacy and also inspired fellow pharmacists to create success through such unique blue water strategy approaches rather than red water strategy. In a blue water strategy, you create concepts and establish a business in uncontested markets; in red water strategy, you compete in a cut-throat manner to survive through discounts and below belt strategies.

Closing remarks: It is time for community pharmacists to don the apron and their thinking hat to get into uncharted territory with a blue water strategy for insulated success. Kanak found his way through a pharmacy that specialized in retailing oral care products along with regular pharmacy products. He is thriving! Find your way and thrive!! Fortunes favour the brave!

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Inspirational Pharmacist

Bishnupanda Mukerjee

(1903-1979) - First Indian Pharmacist

Pharmacy evolved from antiquity as part of medicine. The history of pharmacy as an independent science dates back to the first third of the 19th century. Before that India, as compared to other western countries was in a very infantile state and professionals in that era contributed to a long-drawn-out struggle to establish pharmacy as a profession.

Bishnupanda Mukerjee, a renowned medico-pharmaceutical professional of the 20th century for his contributions in the field of pharmaceutical sciences is often dubbed as the First Indian pharmacist. Born on 1st March 1903 at Barrackpore in the district of North 24 Parganas, West Bengal did his early schooling in Barrackpore, Kolkata. Later, he graduated from Calcutta Medical College with the degree of Bachelor of Medicine with first rank and honors in Pharmacology, Midwifery, and Gynecology in 1927.

Bishnupanda Mukerjees' contributions covered the fieds of pharmacology, toxicology, endocrinology, physiology, chemotherapy, and standardization of procedures besides his administrative contributions. Also, he had the privilege to work with Col. Sir Ram Chopra at the School of Tropical Medicine, Calcutta on indigenous drugs like Rauwolfia Serpentina, a plant that gained importance two decades later as a source of reserpine. In 1936, he secured a degree of Doctor of Science (D.Sc.) from the University of Michigan, the first doctoral degree awarded by the University in Pharmacology.

On returning home, he worked for 15 years at the Biochemical Standardisation Laboratory (BSL) and the statutory Central Drugs Laboratory (CDL). Dr. Mukerjee became a crusader for the propagation of pharmacology and envisioned a National Institute for Drug Research, and later manifested as the Central Drug Research Institute (CDRI) at Lucknow and served the Institute for 12 years as Director. The work published from this laboratory gained an international reputation and has become an excursion for all enthusiastic pharmacologists around The Globe.

During the years of his being at the command of the BSL, CDL, and CDRI various activities came to light involving a survey of quality of drugs in the market, training of analysts, preparation and maintenance of standards for drugs, providing information concerning drugs and issue of technical and scientific publications. Dr. Mukerjee significantly helped in the development of pharmacology and his contributions to the pharmaceutical discipline in the country served of great importance. There was no part of the pharmaceutical activity and the profession on which he did not leave an enduring impact. Dr Mukerjee also contributed to the compilation of the official Indian Pharmacopoeia List, Pharmaceutical and Drug Committees of the Council of Scientific and Industrial Research (CSIR), and subcommittees, the Drugs Technical Advisory Board (DTAB) as an ex-officio member, pharmaceutical organizations, and in several other ways. He with his colleagues brought out the Indian Pharmaceutical Codex. After the independence of India, he was associated with the making of the Pharmacopoeia of India in 1955 and 1960, its supplement and the Pharmacopoeia of India, 1966.

Dr. Mukerjee received many awards and recognitions in the Country and abroad; the Griffith Memorial Prize and the Nilmony Brahmachari Gold Medal(1938), Asutosh Mookerjee Memorial Award of the Indian Science Congress Association(1940), Barclay Medal of the Asiatic Society(1954), the Squibb International Award from Bristol-Myers Squibb (1962), H. K. Sen Memorial Medal from the Institution of Chemists(1963) and Acharya P. C. Ray Medal from the Indian Pharmaceutical Association (1976). The Government of India awarded him the civilian honor of Padma Shri in 1962. From the above selective coverage, the pharmaceutical contributions of Dr. B. Mukerji, in the scientific research in the biomedical field set a remarkable example of excellence for the future pharmacy practice in India. Looking to his role in building pharmacology and pharmacy, undeniably Dr. Bishnupada Mukerji stands tall as a medico-pharmaceutical professional of the great merit of our land.

Ms. Priya J Aradhya
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Quiz

RULES

1. Correct answers will be rewarded 1 point each (10 marks)
2. Answer of the quiz will be evaluated by panel of judges and their decision is final.
3. Those who get the highest marks, their photo will be published in our next bulletin and also a cash prize of Rs.500/- will be rewarded to them
4. The answer must be sent within 20th February 2021 to this E Mail ID- krpaindia@gmail.com

A confirmation mail will be sent to you on receiving your e-mail.

1. Which year did Pharmacy begin?
a. 1523 AD b. 1345AD c. 100BC d. 1526BC

2. Identify the field of pharmacy that concerns with the lawful practices and judiciary approval of different pharmacy products
a. Pharmacy administration b. Drug regulatory affairs c. Both d. Pharmacy Practice

3. When the compound X attaches to the RBC and in the factory of body, the mills work and the outcomes are the decreased glucose level in the blood. What is X?
a. Glucagon b. Vasopressin c. Insulin d. Glucorhein

4. Who is known as the Father of Pharmacy?
a. David Walters b. Galen c. William Procter d. Peter Eckinsburg

5. X is a compound. Its structural features revealed that the moiety contains the cyclo pentano perhydro phenanthrene ring. It helps in glucose metabolism. The origin of X is from?
a. Kidneys b. Liver c. Medulla d. Adrenal glands

6. Identify the new oral Anticoagulant that should not be given through NG/ G-Tube/ Ryles Tube feeding.
a. Dabigatron etexilate b. Rivaroxaban c. Apixaban d. Edoxaban

7. A patient on Aspirin will have an increase in which of the following parameter?
a. aPTT b. Bleeding time c.PT d. None of these

8. Which Anti-diarrhoeal is the most appropriate to be prescribed in case of Acute gastroenteritis?
a. Racecadotril b. Loperamide c. Bismuth subsalicylate
d. Diphenoxylate
9. Invention of which Sulphur derivative gave a tremendous change in the treatment of Leprosy?
a. Sulphanilide b. Dapsone c.Sucralfate d. Sulfasalazine

10. Father of Chemotherapy
a. William Harvey b. Alexander Fleming c. Paul Elrich d. Domagk

Congratulations

to the winner of Tenth Edition

KRPA Quiz Competition

Mr. S. Ramesh
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DISCLAIMER

The Newsletter intends to provide updated and reliable information on medicines and other related issues in an attempt to equip healthcare professionals to take informed decision in recommending medicines to the patients. However, they are encouraged to validate the contents. Neither the people associated with the publication of the Newsletter nor the organization shall be liable for any damage incurred as a result of use of the contents of this publication. The brand names of medicines, if mentioned, are for illustration only and the newsletter does not endorse them.

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