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NEWSLETTER

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Pharmacy Newsletter provides information regarding the decisions of P & TC, current concepts in drug therapy, warnings and cautions issued by various regulatory agencies, drug interactions, ADRs and matters related to drug usage.

Opinions expressed are of authors and does not necessarily represent AKUH's view/recommendations.

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Role of Pharmacist to Overcome the Challenges related to COVID-19 Vaccines

Dr. Faqeeha Shakeel, Pharmacist

Grappling with the third wave of COVID-19 will not be easy. To overcome the challenges against this outbreak certain steps have

Convenience

- Availability, assessability and appeal of immunization services affect vaccine acceptance

Confidence

- In terms of efficacy and safety, what is patient's level of interest

Complacency

- Vaccine is not considered as essential part of preventive disease or to lower the risk

been taken and one of the steps is inoculation of the COVID-19 vaccines to develop herd immunity. Vaccines are considered to be one of the most cost-effective means of preventing illness and death from certain outbreaks just like COVID-19. Since, recent approvals of COVID-19 Vaccine there are a lot of individuals who are reluctant to get vaccinated despite the availability of safe and effective vaccines. As per WHO vaccine hesitancy was rated among the *top 10 threats to global health*.

Here, the role of Pharmacist begins because pharmacists are well positioned to improve vaccination rates

as they can act as patient educator, advocate, identifier, and immunizer as well. Vaccine hesitancy is being influenced by 3Cs which are complacency, convenience and confidence. And other than that different barriers can aggravate the vaccine denial which are lack of awareness, insufficient or misinformation about vaccine and believing on myths and various misconceptions.

Approved COVID-19 vaccines in Pakistan

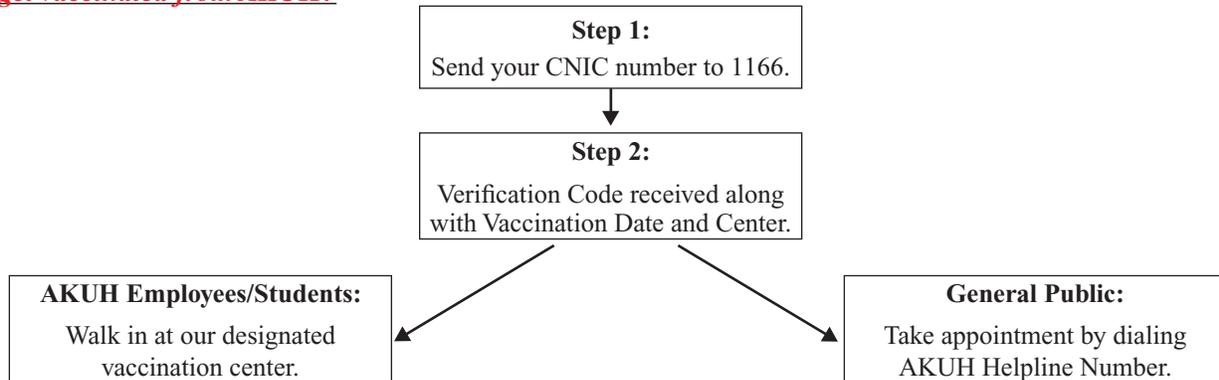
Sinopharm (2 Doses; 21 Days Apart)	CanSino (Single Dose)	Sputnik V (2 Doses; 21 Days Apart)	Sinovac (2 Doses; 28 Days Apart)	AstraZeneca (2 Doses; 12 Weeks Apart)	Pfizer-BioNTech (2 Doses; 21 Days Apart)
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What pharmacist can do to overcome challenges??

- Find out public fear and counsel the public about safety and efficacy of vaccine (e.g. it's an inactivated virus it won't harm you)
- Listen to public, acknowledge their concerns and make them feel at ease.
- Let public know how vaccine works and how immune system responds
- Counsel public how it can prevent from outbreak, if it cannot show 100 percent efficacy but has the ability to reduce severity of disease.
- Share personal experience of vaccine with them to enhance level of trust.
- Answer public questions and give recommendation accordingly.

Reference:

Virginia YCT BS Pharm, RPh Clinical Pharmacist/Freelance Medical Writer Haymarket. *The Role of the Pharmacist in Overcoming Vaccine Hesitancy* [Internet]. [cited 2021 May 4]. Available from: <https://www.uspharmacist.com/article/the-role-of-the-pharmacist-in-overcoming-vaccine-hesitancy>

How to get vaccinated from AKUH?**Myths & Facts about COVID-19 Vaccine***Dr. M. Umair Ihsan, Pharmacist***Myths****Facts**

COVID-19 vaccine can make me sick with COVID-19



Authorized and recommended COVID-19 vaccines contain killed viruses which cannot make you sick with COVID-19.

I have already had COVID-19 and recovered, I don't need to get vaccinated with a COVID-19 vaccine.



You should be vaccinated regardless of whether you already had COVID-19. That's because experts do not yet know how long you are protected from getting sick again (reinfection) after recovering from COVID-19.

COVID-19 vaccine will alter my DNA.



The mRNA from a COVID-19 vaccine never enters the nucleus of the cell. Hence, cannot alter DNA.

COVID-19 vaccine has a potential to cause infertility



There is currently no evidence that COVID-19 vaccination causes any problems with fertility, including the development of the placenta and fetus.

I Can not breastfeed my baby after getting COVID-19 vaccination

There is currently no evidence that COVID-19 vaccination causes any problems with breastfeeding. Some experts prefer to get vaccinated so that the baby can also develop immunity against COVID-19.

Reference:

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/facts.html>

Medication Loss in the Tubing while Administration

Dr. Mehreen Muzammil, Clinical Pharmacist

Every year Institute for Safe Medication Practices (ISMP) declare top 10 medication errors reported from every part of the world. With that, precautions to decrease the incidence of error are also suggested. The list depends on the errors which have serious consequences to the patient and can be prevented. One of the error identified in these top 10 error was **“Medication loss in the tubing when administering small-volume infusions via a primary administration set”**

Small volume of infusions i.e. 50ml to 100ml (of antibiotics) are administered by long administration set connected to patients' vascular access. This can result in under dosing because the residual volume in administration set may not be administered to patient. Primary administration set will have residual volume of around 25 ml. In order to reduce the harm, recommendation is to administer little secondary infusion and flush the residual volume through the drip set to confirm that the patient received the total medication dose.

Lack of awareness among nurses, pharmacists and prescribers reported this error globally. There is need to consider that remaining 25ml solution of antibiotic lead to under dosing may result in patient's bad outcome, infection may remain untreated. Under dosing has clinical impact, in sepsis, patient will result in low antibiotic levels and less time with minimum inhibitory concentration. Same when patient being administered anti-epileptics like levetiracetam blood levels will be low and time to reach the effective therapeutic concentration in blood will be longer.

Reference:

Harding M, Stefka S, Bailey M, Morgan D, Anderson A. Best practice for delivering small-volume intermittent intravenous infusions. *J Infus Nurs.* 2020;43(1):47-52.

One Pill can kill | Advancing your knowledge of Paediatric Toxicology

Dr. Hafsa Ashfaq, Clinical Pharmacist

Children are the victims in 68% of all poisoning exposures. Most of the reported exposures involve Toddlers (1-4 Years of age). Kids are curious and they keep on putting things in their mouths. Exploring what objects feel and taste like is part of their curiosity. It is important to be aware of the toxic potential of medications that are at home, and to keep them out of the reach of children.

Few medications that can be harmful if only a small amount (1-2 tablets) is ingested for a 15 kg less child.

Drug	Potentially Fatal Dose (mg/kg)	Toxicity	Signs/ Symptoms of Toxicity
Calcium Channel Blockers	15	Myocardial suppression	PR Prolongation, Bradydysrhythmias, Hypotension, CHF
Tricyclic Antidepressants	15	Na ⁺ channel blockade, alpha 1 blockade	Coma, Seizures, Tachycardia followed by Hypotension and Bradydysrhythmias
Antimalarials	20	Na ⁺ channel blockade, direct retinal damage	Prolonged QRS/QT, Torsades, Hypotension, Tinnitus, Vision Loss, Headache, Vertigo, Seizures
Sulfonylureas	0.1	Activates insulin release	Hypoglycemia, Irritability, Lethargy, Seizures and Coma
Codeine	10	Respiratory depression	Miosis, CNS Depression, Hypopnea
Class 1 Antiarrhythmics	25	Na ⁺ channel blockade	Prolonged PR/QRS, QT (Class 1A Agents), Headache, Nausea/Vomiting

Chronic Therapy Medications During the Perioperative Period: To Continue or Discontinue?

Dr. Fariha Ayaz, Pharmacist

Long term medication therapy for chronic conditions is often necessary to maintain the patient's physiological condition. The decision to withhold such therapy is made by the physician/anaesthetist guided by the pharmacist in both inpatient & outpatient setups whilst counselling a patient prior to surgery. This depends on the patient's current medical condition and the potential for withdrawal symptoms, worsening of patient's underlying physiological condition, drug interaction with aesthetic medications, perioperative hemodynamic instability or postoperative complications such as bleeding.

ADMINISTRATION OF CHRONIC MEDICATIONS PRIOR TO SURGERY		
Drug Classification	Discontinued/Continued	Rationale/Consequences
Beta Blockers	Continue in patients with ACC/AHA Class I guideline indications (Angina, symptomatic arrhythmia, post-MI)	Abrupt discontinuation when on chronic therapy increases risk of death intraoperative & postoperatively.
ACEIs/ARBs	Withhold 24 hours before surgery when indicated (Adverse post-op effects i.e. rebound hypertension & atrial fibrillation)	Increase risk of hypotension after induction of anaesthesia which is not controlled by conventional vasopressors (only by vasopressin).
Statins	Continued.	Preoperative withdrawal in patients undergoing major vascular surgery increases risk of MI and cardiovascular death postoperatively.
Diuretics	Held the morning of surgery.	To minimize risk of hypovolemia & electrolyte abnormalities.
Oral Antidiabetic Agents	Held the morning of surgery and not restarted until food intake resumes.	To reduce risk of hypoglycaemia.
	In renal dysfunction/IV contrast media: Metformin discontinued 24-48 hours prior to surgery.	To reduce risk of perioperative lactic acidosis.
Antiepileptic, Carbidopa/Levodopa, Antipsychotic, BZDs, SSRIs, SNRIs, TCAs.	Continue up to and including the morning of surgery.	Greater risk of withdrawal or disease decompensation than for perioperative complications.
Corticosteroids	Continuation of normal dose (Supplemental doses required in Addison's disease)	Patients generally able to increase their endogenous adrenal function above their baseline dose to meet increased demands of surgery.

Reference:

Koda Kimble & Young's Applied Therapeutics Tenth Edition
<https://pubmed.ncbi.nlm.nih.gov/9563428/>

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For Formulary supplements assistance visit <http://portal.aku.edu/pharmacy/olf.asp> or Call 34861504/1506

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