SUSTAINING BREASTFEEDING TOGETHER

WABA | WORLD BREASTFEEDING WEEK

17 AUGUST 2017

WBW2017 celebrates working together for the common good, which produces sustainable results, greater than the sum of our individual efforts.

We learnt in WBW2016 that protection, promotion and support for breastfeeding are keys to sustainable development. We grouped the 17 SDGs into four Thematic Areas that relate to each other and to breastfeeding. These four groups help us to define our work in the context of the SDGs. From this year onwards, they will also help us find others to work with.

WBW 2017 will provide a platform for long-term collaboration. For further information, action ideas and toolkits, please visit worldbreastfeedingweek.org to plan for and measure successes for the years to come.

Many hands make light work and each of us has a part to play. Let us start!

Objectives of WABA|World Breastfeeding Week 2017

1. Inform - Understand the importance of working together in the Thematic Areas.
2. Anchor - Recognise the priority and the difference you make within your areas of work.
3. Engage - Work together to achieve the SDGs for 2030.
4. Galvanise - Work together to achieve the SDGs for 2030.

The infrastructure and manpower in hospital pharmacy is appalling. Pharmacy services of healthcare set up need modernization and reorientation under the aegis of Directorate of Pharmacy, so that seven star pharmacy services can be provided to each and every patient.

Advances in knowledge and application of pharmacokinetic and pharmacodynamic basis of therapeutics has brought a sea change in the practice of pharmacy. Discovery of modern synthetic drugs beginning with Aspirin in 1897 changed the course of dispensing. Scientifically developed ready to use dosage forms aimed at optimum bioavailability, enabled improved therapeutic efficacy and safety. Extemporaneous preparations are almost extinct. Ancient conventional pounding, pouring, leaking and sticking functions of pharmacist are history now. Unfortunately, the pharmacy syllabus ritually sticks to such exercises as ever. Dandiya and Kulkarni’s query ‘has our approach to scientific inquiry and quest changed?’ (Pharma Times, 2017; 49(6): June 2017 p. 9-10), mutatis mutandis applies to pharmacy education also.

Assuring rational drug therapy is the objective of pharmaceutical care provided by hospital and community pharmacists. Pharmacists must strive to ensure that medicines do not become menace to mankind. Assuring rational use of drugs, providing drug information, and convincing patients for strict compliance of dosage regimen are essential features of modern pharmaceutical care. Accurate dispensing of prescriptions and monitoring drug therapy management are keys to rational therapy. Pharmacists must be resourceful, eager to update knowledge and skill as well as passionate to provide services of highest standard. Today’s pharmacist’s concern is safe, effective and appropriate use of medicines to avail maximum benefit and avoid expose to health hazards. Drug interaction and adverse effects of drugs are scientifically tracked and reported at a very fast pace. As a result drug related problems have emerged as one of the leading causes of hospitalization, morbidity and mortality. The reality is medicines save life and protect health only when used appropriately. Thus the role of the pharmacist is becoming much more important day by day.

All these have revolutionized pharmacist’s role in healthcare. Medication errors need to be effectively curbed and pharmacist being the last professional in the therapeutic team has an important role to play. Due to incessant efforts of Mr. Chilukuri Paramathma, a community pharmacist from Nalgonda of Telangana State, on October 8, 2016 Medical Council of India amended Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002. Clause 1.5 in Chapter 1-B- has been substituted by the following: -

“Every physician should prescribe drugs with generic names legibly and preferably in capital letters and he/she shall ensure that there is a rational prescription and use of drugs”

This amendment has three distinct aspects.

1. Every physician should prescribe drugs with generic names legibly and preferably in capital letters;
2. he/she (Every physician) shall ensure that there is a rational prescription; and
3. he/she (Every physician) shall ensure that there is a rational use of drugs.

Thus while dispensing the prescription every pharmacists must satisfy herself/himself that generic name and capital letters are used in the prescription and it is completely legible to identify the prescribed medicine, the dose, frequency & route of administration and duration of therapy. This will lead to precise and accurate dispensing of the prescription and better patient compliance. Rational prescription means proper choice of drugs based on the diagnosis and clinical manifestations while rational use of drugs implicates desisting from use of too many medicines (poly pharmacy), inappropriate use of antibiotics, inadequate dose and duration of therapy and even prescribing antibiotics in non-bacterial infections, indiscriminate use of injection when oral products are appropriate.

Monitoring these three aspects of prescription is the responsibility of the pharmacist, the ultimate professional in the health care set up whom the patient calls at last. Once the prescription is written, it is presented to the pharmacist for dispensing. The pharmacist must examine every prescription for rational prescribing and rational use of medicines and satisfy herself/himself. Only then it should be dispensed. Any suspected defect or deficiency in prescription must be brought to the notice of the prescriber for correction before dispensing, in the greater interest of health and life of patients.
Once these aspects of prescription are seriously met, the therapeutic scenario will completely change and people at large will realise how important the pharmacist is. Patients will get cured fast, crowd in hospitals, both in-patient and out-patient will reduce and health needs of more and more people can be easily and optimally met because of scientific involvement of pharmacists in rational therapy.

Meeting these objectives faces the greatest challenge from such Chemist and Druggist licensees who have ghost pharmacists and the number of such licensees is quite large. The question arises does India need so many retail medicine shops? In England “There were 11,688 community pharmacies as on 31 March 2016, (report of General Pharmaceutical Services England Published on 16.11.2016). UK’s Office of National Statistics in June 2016, reported 54,786,300 people living in England.

A simple calculation of number of community pharmacy and population of England shows that 54,786,300/11,688 = 4,687 or for every 4,687 people living in England there is one Community Pharmacy. The Health care setup of England is one of the best in the World.

The population of India as on 18.3.2017 was 1,337,927,503 (United Nations estimates). Taking England as standard the number of community Pharmacies required in India as on 18.3.2017 is 1,337,927,503 ÷ 4,687 = 285,455. Thus India needs only 285,455 retail outlets of medicines and medical devices to serve the community and provide world class pharmaceutical care. Unfortunately there are more than 80,000 of them against the optimal need of 285,455 taking England as bench mark. In other words India has almost three times the number of outlets for medicines. How many of the over 800,000 licensed outlets of medicines in India dispense more than 50 prescriptions on an average per day is the biggest question. Any medicine outlet dispensing less than 50 prescriptions on an average per day can't be a viable business. It is for the professionals to realize the importance of Community Pharmacy and opt it as a career.

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CONGRATULATIONS

Congratulations to Dr. Rao V. S. V. Vadlamudi : elected President of Commonwealth Pharmacists Association

Dr. Rao Vadlamudi, President of IPA has been elected as new President of Commonwealth Pharmacists Association (CPA) for the term 2017-2019 and he took the charge from Mr. Raymond Anderson, outgoing CPA President, on 30th July, 2017 at CPA’s conference in Sydney, Australia. It is a proud moment for IPA and for India to be honored with this prestigious international leadership position. Our heartiest congratulations to our beloved President for this wonderful achievement and we wish him all the success in his new position.
Dear Pharmacists,

While penning down this message, we received one wonderful news and it is a great pleasure to inform you about this happy development for IPA. Dr. Rao Vadlamudi, President of IPA has been elected as the President of the Commonwealth Pharmacists Association (CPA). After a long gap of 30 years, the CPA President has been from India. The first CPA President from India was late Dr. J.N. Banerjee during the period 1982 – 1987. Dr. Rao Vadlamudi, an academician par excellence and an eminent scientist is a strong advocate of pharmacist’s healthcare role. IPA CPD feels very proud to see Dr. Rao in this international leadership position. CPD has strong connections with CPA since the year 2004, the time when we started the TB Fact Card project with the support of CPA and those initial efforts ultimately led to the current public private partnership of DOTS TB Pharmacist. We will be keen to spread this model in CPA countries wherever required, under the leadership of the new President. Dr B Suresh, President of the Pharmacy Council of India and past president of IPA has been conferred the CPA Fellowship. This is another happy news for India and for IPA. Heartiest congratulations to both these leaders and we wish them all the good luck in their future endeavours.

There has been state of confusion since last couple of months in all business sectors due to changing tax structure in India. Of course it’s a transitional situation. Government has introduced the Goods and Service Tax (GST) which is a comprehensive value added Tax on the supply of Goods and services. GST has replaced all the indirect taxes. It has been implemented since 1st July 2017 and medicine shortages in initial period were feared by some experts due to GST. Though there hasn’t been such shortages, pharmacists have been really busy understanding the new system and getting adjusted to it.

On the global map, there are some remarkable developments. The United Nations Office on Drugs and Crime (UNODC) has released the World Drug Report 2017. It shows that 0.6 per cent of the global adult population, suffer from drug use disorders. Much work is to be done to confront the many harms inflicted by drugs. The pharmacist has and can play an important role in harm reduction.

On this background, it is interesting to see that many countries across the world are rethinking the fight against recreational addictive drugs. Uruguay is taking a significant step further. It is the first nation in the world to fully legalize the production and sale of marijuana for recreational use. Drug users must officially register with the government. There are strict quotas to prevent over indulgence. And important to note that Marijuana will be available in Pharmacies and Uruguay’s marijuana legalization law took full effect in mid-July. Needless to say that the pharmacists in Uruguay have an added responsibility. It will be interesting to see if this system of freedom with regulation works better than prohibition.

The FIP Congress at Seoul (10th to 14th September 2017) is few weeks away now and everyone who plans to attend is excited to be part of the global gathering of pharmacists. We will bring glimpses of the Congress in the next issue of ETimes.

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Ayurveda has been the cornerstone of medicine in India for over a thousand years, and is considered the oldest surviving complete medicine system in the world. Yoga is also another gift to the world with origins in ancient India. The Ministry of Health, Govt of India over the past several years have brought together some of such traditional systems of medicines under one umbrella, and now (November 9, 2015) formed the Ministry of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha, Homeopathy, and off late added the Sowa-Rigpa practiced from ancient times in the Himalayan region). Siddha is an ancient practice of medicine which originated in Southern India (Tamilian state), Unani is a traditional system introduced to India in around the 11th century from Arabia and Persia, Naturopathy revolves around use of natural, healthy living, and a drugless system of healing, while Homeopathy, originating from Germany (18th century) has taken roots in India for more than a century and half now. Do visit the AYUSH Ministry website www.ayush.gov.in.

India thus has a very rich and well established traditional systems of medicines, but unfortunately, even in our country these are getting falsely labelled by many as “alternative” systems of medicines. Starting from almost a century ago now, the modern or the allopathic system of medicine has largely overtaken all the AYUSH systems of medicines, and occupies a very prime position in the market today. The annual turnover of allopathic medicines in the country has crossed the Rs. 1 lakh crore mark, whereas the turnover of ayurvedic and allied products is expected to reach only Rs. 7000 crores by 2020 (EXIM Bank Report).

AYUSH systems of medicines have stood the test of time, and are government recognized and promoted systems of medicines. Efforts are on to expand their scope not only because they are traditional systems, but they are relatively safer and at the same time very effective treatments.

Pharmacists could have a very big role in popularising these systems, but unfortunately, there are several lacunae in the curriculum and training of pharmacists in the AYUSH systems of medicines – they have very scant importance and space. So, the pharmacists generating out of the pharmacy colleges have barely any knowledge of exposure to the systems as well the medicines and are found very much wanting.

It would be appropriate if the AYUSH ministry, the Pharmacy Council of India gave serious thought to include sufficient exposure to pharmacy students through the curriculum as well as general exposure through seminars and hands on training, to equip with them at least the basic skills to handle medicines of these systems. For the pharmacists already practising, it would be appropriate to develop and deliver e-learning modules on AYUSH systems and their medicines, so that they could be equipped. Six lakh chemists across the country is a large force to help spread the message of AYUSH systems across the country and to benefit the populace.

Raj Vaidya

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Drug Information: Teneligliptin

**Brand Names:** Dynaglipt, J-ring, Ten, Tenebite etc..

**Pharmacological class of drug:** Anti-diabetic; known as “gliptins” or Dipeptidyl peptidase-4 (DPP-4)

**Indications:** Adjunct to diet and exercise to improve glycemic control with Type 2 Diabetes Mellitus

**Initial dose:** 20mg daily. It can be increased to 40mg daily.

### Contraindications:
1. Patients having hypersensitivity to Teneligliptin or to any excipients of formulation.
2. Patients having severe Ketosis, diabetic coma and Type 1 Diabetes Mellitus.
3. Patients having severe infection, perioperative, severe trauma and severe external injury since glycemic control is desired by insulin injection, the administration of Teneligliptin is not suitable.
4. It should be avoided by the breast feeding mother.
5. It should not be used with patients having acute pancreatitis.

### Adverse drug reactions:
- **Major:** Hypoglycemia and Constipation
- **Others:** Kidney and Urinary system: Proteinuria, urine ketone-positive.

Patients using an insulin secretagogue (eg: sulfonylureas) may cause severe hypoglycemia, skin and subcutaneous tissue disorders: Eczema, rash, itching, allergic dermatitis.

Gastrointestinal Disorders: Intestinal obstruction, abdominal bloating, abdominal discomfort, nausea, abdominal pain, stomatitis, gastric polyps, colon polyps, duodenal ulcer, reflux esophagitis, diarrhea, loss of appetite, increased amylose, lipase increased, acute pancreatitis.

**Others:** Increased CPK, increased serum potassium, fatigue, allergic rhinitis, elevation of serum uric acid.

### Warnings & precautions:
1. Patients with advanced liver failure
2. Patients with congestive heart failure
3. Patients with pituitary & adrenal insufficiency, poor nutritional state, starvation, an irregular dietary intake, intense muscle movement or excessive alcohol intake (may cause low blood sugar level).
4. Patients with abdominal surgery or bowel obstruction.

### Counseling the patient:
1. If efficacy is insufficient, the dose may be increased up to 40 mg once daily while closely monitoring the clinical course.
2. This medicine inhibits the enzyme which degrades incretin, a hormone adjusting blood glucose level. Consequently, it enhances insulin secretion depending on blood glucose level, and improves blood glucose control.
3. If you miss a dose, take a dose as soon as possible. If it is almost time for the next dose, skip the missed dose and continue your regular dosing schedule. You should never take two doses at one time.
4. If you accidentally take more than your prescribed dose, consult with your doctor or pharmacist.
5. Do not stop taking this medicine unless your doctor instructs you to do so.
6. Before using this drug, inform your doctor about your current list of medications, over the counter products (e.g. vitamins, herbal supplements, etc.), allergies, pre-existing diseases, and current health conditions (e.g. pregnancy, upcoming surgery, etc.).
7. Do not use more than prescribed dose. Taking more medication will not improve your symptoms; rather they may cause poisoning or serious side-effects.
8. Take as directed by your doctor.
9. Dosage is based on your condition. Tell your doctor if your condition persists or worsens.

### Route & Onset:

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<th>Onset</th>
<th>Peak</th>
<th>Duration of action</th>
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<tr>
<td>Oral</td>
<td></td>
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<td>24 hours</td>
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### Auxiliary label:
- Take after a meal, once a day

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**Volume 6, Issue 4, July-August 2017**
OTC Corner:- Chlorhexidine

**Brand Names:** Hexigel, Betasept, Chlorostat, etc.

**Contents:** Chlorhexidine Gluconate Solution I.P. equivalent to Chlorhexidine Gluconate 1.0% W/W in pleasantly flavoured gel.

**Pharmalogical Class & Indications:** Chlorhexidine is a non-irritating antiseptic & disinfectant that disrupts bacterial cell membrane. It is the secondary action of denaturation of microbial proteins.

It is most widely employed antiseptic in dentistry. It is used to treat gingivitis, redness and swelling of gums, and to control gum bleeding.

**Routes Of Administration:** Topical (antiseptic mouth gel)

**Mechanism Of Action:** At physiologic pH, chlorhexidine salts dissociate and release the positively charged chlorhexidine cation. At low concentrations of chlorhexidine, this results in a bacteriostatic effect; at high concentrations, membrane disruption results in cell death. It has a broad-spectrum of activity against gm+ve and gm-ve bacteria. It is both bacteriostatic and bactericidal depending on its concentration.

**Special Precautions:** Avoid contact with brain, meninges, middle ear or sensitive tissue and eye. Do not inject or use in the body cavities.

**Adverse Drug Reactions:** Reversible brown staining/discolouration of the teeth, tongue discoloration and burning sensation, altered taste, toothache, headache, upper airway infection, skin sensitivity, mucosal irritation, irritation of conjunctiva, light headedness, rapid heart rate, upset stomach, diarrhea, etc.

**Allergic symptoms such as:** Skin rash, itch, generalized swelling, breathing difficulties.

**Storage:** Do not store above 25 degree C.

Protect from light. Do not freeze. Keep the tube capped when not in use.

**Directions:** To be brushed or applied with a finger on the teeth once or twice daily for oral hygiene, plaque inhibition & gingivitis. To be applied on the affected areas, once or twice daily, for management of aphthous & other oral ulcers.

**Warning:** Brown staining may be reported with extended use in some cases, which may be removed by brushing or polishing.

**NOT TO BE SWALLOWED.**
Drug Watch: Paracetamol induced Hepatotoxicity

Background
Paracetamol is a widely used OTC and prescription analgesic and antipyretic used for mild-to-moderate pain and fever. Paracetamol is usually considered safe, but taking more than the recommended dose can cause liver damage, ranging from abnormalities in liver function tests, to acute liver failure, and even death. Paracetamol overdose is the leading cause of acute liver failure in the U.S and the leading cause of liver failure requiring liver transplantation in UK.

Risk factors
Hepatotoxicity is typically seen in alcoholics and critically ill patients. Additional risk factors include concomitant use of CYP-450 inducers such as Phenobarbital, Phenytoin, substance abuse, pre-existing liver disease, old age, fasting and malnutrition.

Pathogenesis and Clinical presentation
Paracetamol is largely metabolized to non toxic glucuronate or sulfate conjugates and secreted in the urine. A minor amount of paracetamol (5%) is metabolized via the cytochrome P450 system to an intermediate such as N-acetyl-p-benzoquinoneimeine which is toxic. Usually this intermediate is rapidly conjugated by glutathione, detoxified and secreted. If levels of glutathione are low or the pathway is overwhelmed by high doses of acetaminophen, the reactive intermediate accumulates and binds to intracellular macromolecules that can lead to cell injury. Initial non-specific symptoms of hepatotoxicity include nausea, vomiting, malaise, lethargy and sweating followed by right-upper quadrant pain, coagulopathy, marked AST and ALT elevations in conjunction with jaundice and encephalopathy.

Prevention and Management
If paracetamol ingestion is known or suspected to have occurred within a few hours of presentation, activated charcoal may be useful for gastrointestinal decontamination. Activated charcoal is most effective if given within one hour of ingestion. N-acetylcysteine is the antidote for paracetamol poisoning. Some patients require liver transplantation.

Role of Pharmacist
The community pharmacist should educate the patients not to take more than recommended amount of paracetamol in a day (4g/day in adults). This prevents the accidental overdose of paracetamol, as it is present in combination with many other OTC medications. Patients taking paracetamol should be advised not to fast or take alcohol. Patients taking paracetamol long-term for chronic pain should be educated to get their liver function tests done once or twice a year.

References

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Laboratory information: Amylase test

Amylase is an enzyme that helps digest carbohydrates. It is made in the pancreas and the glands that make saliva. When the pancreas is diseased or inflamed, amylase releases into the blood. This test is most often used to diagnose or monitor acute pancreatitis. It may also detect chronic pancreatitis or other conditions that affect the pancreas. In acute pancreatitis, amylase in the blood often increases to 4 to 6 times higher than the highest reference value. The increase occurs within 4 to 8 hours of injury to the pancreas and generally remains elevated until the cause is successfully treated. It may take few days to go back to normal amylase levels.

No special preparation is needed. However, avoid alcohol before the test. Drugs that can increase amylase measurements include:

- Asparaginase
- Aspirin
- Birth control pills
- Cholinergic medications
- Ethacrynic acid
- Methyldopa
- Opiates (codeine, meperidine, and morphine)
- Thiazide diuretics

Normal values

The normal range is 23 to 85 units per liter (U/L) or 0.38 to 1.42 microkat/L (µkat/L). Some laboratories give a range of 40 to 140 U/L or 0.67 to 2.34 µkat/L.

Increased blood amylase levels may occur due to:

- Acute pancreatitis
- Cancer of the pancreas, ovaries, or lungs
- Cholecystitis
- Gallbladder attack caused by disease
- Gastroenteritis (severe)
- Infection of the salivary glands (such as mumps) or a blockage
- Intestinal blockage
- Macroamylasemia
- Pancreatic or bile duct blockage
- Perforated ulcer
- Tubal pregnancy (may have burst open)

Decreased amylase levels may occur due to:

- Cancer of the pancreas
- Damage to the pancreas
- Kidney disease
- Toxemia of pregnancy

References


Brain Ticklers

(Please find answers in page 10)

1. Which Anticholinesterase agent is used in antagonist-assisted neuromuscular-blockade reversal:
   A. Edrophonium
   B. Neostigmine
   C. Physostigmine
   D. Pyridostigmine

2. Which statement regarding hyoscine is FALSE?
   A. Is naturally occurring
   B. Is a quaternary ammonium compound
   C. Causes mydriasis
   D. Causes confusion in the elderly

3. Which of the following drugs is both a muscarinic and nicotinic blocker?
   A. Atropine
   B. Benztropine
   C. Hexamethonium
   D. Succinylcholine

4. Which of the following does Atropine cause?
   A. Miosis, a reduction in intraocular pressure and cyclospasm
   B. Mydriasis, a rise in intraocular pressure and cycloplegia
   C. Miosis, a rise in intraocular pressure and cycloplegia
   D. Mydriasis, a rise in intraocular pressure and cyclospasm
Consumer Dialogue: Acute Pancreatitis

Pharmacist: Good morning, my name is xxx, I am the pharmacist at your service. How can I help you?

Patient: Hi, my self yyy and I am suffering from constant pain in the upper part of the abdomen and this pain is accompanied by nausea and vomiting. My doctor said it is acute pancreatitis and I need this prescribed medicines. What is acute pancreatitis? What are the causes for this?

Pharmacist: Pancreatitis is a disease in which the pancreas becomes inflamed. Pancreatic damage happens when the digestive enzymes are activated before they are released into the small intestine and begin attacking the pancreas. Acute pancreatitis is a sudden inflammation that lasts for a short time. It may range from mild discomfort to a severe, life-threatening illness. There are many possible underlying causes of acute pancreatitis, but 60 to 75 percent of all cases are caused by gallstones or alcohol abuse. A number of drugs used to treat medical conditions can trigger acute pancreatitis. Acute pancreatitis can be caused by hereditary conditions, usually occur in children and young adults.

Patient: How could I recognize the signs of this condition?

Pharmacist: Acute pancreatitis frequently presents with sudden, constant pain in the upper part of the abdomen, although other medical conditions can also cause this type of pain. The pain may wrap around your upper body and involve the back in a band-like pattern. The pain typically lasts days and is often relieved by leaning forward. Some people have only slight abdominal tenderness and in 5 to 10 percent of people, there is no pain at all.

In people with gallstone pancreatitis, gallbladder pain may occur before pancreatic pain. Gallbladder pain (referred to as biliary colic) occurs in the right upper abdomen, extending to the back and right shoulder. The pain gradually increases in intensity, is constant, and may be accompanied by nausea and vomiting. Gallbladder pain often follows a meal.

In people with alcoholic pancreatitis, the symptoms of acute pancreatitis often occur one to three days after an alcohol binge or after stopping drinking. Pain is accompanied by nausea and vomiting in most people. In severe cases, the initial symptom may be shock or coma.

Patient: Looks like mine is alcoholic pancreatitis. What is the treatment for acute pancreatitis?

Pharmacist: The treatment depends on how bad your attack of acute pancreatitis is. There is no specific treatment that will take the inflammation away. However, in most cases the pancreatitis settles over a few days, although symptoms can get worse before they get better.

You may have been given medicines to help your pain or fight and prevent infections. You may have been given fluids through an intravenous (IV) tube in your vein and nutrition through a feeding tube or IV. You may have had a tube inserted through your nose that helped remove the contents of your stomach.

Patient: Can I drink alcohol? Will it happen again?

Pharmacist: An attack of acute pancreatitis may be a one-off event. However, if there is an underlying cause, then it may happen again (recur) unless the cause is corrected.

- You should not drink alcohol for at least several months after a bout of acute pancreatitis, even if alcohol was not the cause of your pancreatitis.
- If alcohol is the cause of pancreatitis, you should stop drinking alcohol altogether.
- Sometimes a pancreatitis is the first indication of an alcohol dependency problem. Further help, advice and counselling may be needed to stop alcohol; I will refer you to a de-addiction center.

Patient: All right thank you for that.

Pharmacist: Fine, these are your medicines for pain and to prevent infection (explains how to take those medications). Here is the contact of de-addiction center; you can take an appointment calling this number.

Patient: Ok, thank you for providing me all the valuable information and I will contact you further if any other information is required.

Pharmacist: Thank you for spending your valuable time. And I will be always at your service to provide information.
### Know the Abbreviations and Clinical Terms

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<tr>
<th>Abbreviation/ACRONYM</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ACh</td>
<td>Acetylcholine</td>
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<td>HC3</td>
<td>Hemicholinium</td>
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<td>AChE</td>
<td>Acetylcholinesterase</td>
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<td>Butrylcholinesterase</td>
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<td>ChAT</td>
<td>Choline Acetyl Transferase</td>
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<td>MR</td>
<td>Muscarinic Receptor</td>
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<td>NR</td>
<td>Nicotinic Receptor</td>
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<td>Na+ChT</td>
<td>Na+ Choline Cotransporter</td>
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<td>GPCR</td>
<td>G-protein Coupled Receptor</td>
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<td>IP3</td>
<td>Inositol Triphosphate</td>
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<tr>
<td>DAG</td>
<td>Diacyl Glycerol</td>
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<td>PTMA</td>
<td>Phenyl Trimethyl Ammonium</td>
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<tr>
<td>DMPP</td>
<td>Dimethyl Phenyl Piperazinium</td>
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<tr>
<td>RP</td>
<td>Refractory Period</td>
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<tr>
<td>EDRF</td>
<td>Endothelium Dependent Relaxing Factor</td>
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<tr>
<td>Glu</td>
<td>Glutamic Acid</td>
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<td>His</td>
<td>Histidine</td>
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<td>Ser</td>
<td>Serine</td>
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<tr>
<td>DFP</td>
<td>DiisopropylFluoro Phosphate</td>
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<td>DAM</td>
<td>DiacetylMonoxime</td>
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<td>Tetra Methyl Ammonium</td>
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<td>Phosphodiesterase -4</td>
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<tr>
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<td>Heart Rate</td>
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<tr>
<td>NR-Ab</td>
<td>Nicotinic Receptor Antibodies</td>
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<tr>
<td>LES</td>
<td>Lower Esophageal Sphincter</td>
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### Solution of Brain Ticklers

1. Physostigmine
2. Hyoscine
3. Benztropine
4. Mydriasis, a rise in intraocular pressure and cycloplegia
Community Pharmacy Practice in Croatia

Croatia has a long tradition of pharmacy, with the first community pharmacy established in 1271 in the town of Trogir, followed by a community pharmacy opened in Dubrovnik in 1317 inside a 14th-century Franciscan monastery, one in Zagreb in 1355, and a first hospital pharmacy established in Dubrovnik in 1420. It should be emphasized that the community pharmacy opened in Dubrovnik within the monastery, without ever closing its doors, is celebrating 700 years this year, which makes it one of 3 oldest operating pharmacies in Europe.

From the first medieval pharmacies, during 18th and 19th century pharmacy in Croatia underwent considerable development. In 1858 the first professional pharmaceutical organization was established, pharmaceutical studies were organized at the University of Zagreb in 1882, and the first Pharmacognosy institute in the world was established in Zagreb in 1896. During the 20th century, the rise of pharmaceutical industry had a significant impact on the development of pharmacy practice.

Educational requirements

There are 2 pharmacy studies in Croatia, at the University of Zagreb Faculty of Pharmacy and Biochemistry, with a 135 years old tradition, and a just recently opened one at the University of Split, co-organized by the Faculty of Medicine and the Faculty of Chemistry and Technology. Together the two studies enroll around 160 pharmacy students yearly. Based on the results of the state high school graduation exam, the very best students choose to study pharmacy.

The five-year Master of Pharmacy program gives basic, biomedical and pharmaceutical sciences knowledge and expertise, but students also learn to practice as patient-oriented healthcare professional who will work in a team with other health care providers. Theoretical lectures on pharmacotherapy with clinical pharmacy, pharmaceutical care, health legislature, communication skills and pharmaceutical ethics and deontology, are followed by 6 month practical training in community and hospital pharmacies. Studies are completed by taking the final exam and the professional exam.

Besides the diploma, the student also acquires approval for independent work in the health care system at jobs foreseen for the pharmacy profession (community and hospital pharmacies). Membership in the national Chamber of Pharmacists is compulsory to work in a community and/or hospital pharmacy. A license is issued for a period of 6 years, and continuing education is compulsory.

In the recent years a number of one year postgraduate specialist studies have been introduced, and Clinical Pharmacy being among most popular ones. There is also an 3 year health specialization in clinical pharmacy.

Number of pharmacists

Today Croatia, with a population of 4.2 million, has over 3000 registered pharmacists, majority (93%) of them female. Over 2400 registered pharmacists are working in about 1100 pharmacies all over the country.

After the World War II until 1991, when Croatia became independent for the first time in its history, pharmacies were exclusively state-owned. Since then the privatization of the pharmacy sector began and many new pharmacies were opened. Today over 50% of all community pharmacies are company-owned chains, while the rest are state/publicly owned, owned by one or a group of pharmacists, or are in lease.

Working alongside pharmacists in community pharmacies there are also pharmacy technicians, who after finishing a 4 year secondary school have to take a pre-registration training for 1 year, and pass the professional/state exam at the Ministry of Health. Pharmacy technicians can dispense only non-prescription medicines and other over-the-counter products.

Infrastructural and legal requirements

Although a pharmacy can be owned by a non-pharmacists and by wholesales, and there is no limitation to a number of pharmacies a legal person can own, a licensed pharmacists must always be present in a pharmacy to manage and operate it.

In order to open a new pharmacy, two main conditions have to be met, first the number of people living in the area, and second the distance between the closest existing pharmacy. The minimum distance depends on the size of the city. In cities with over 500 000 people the distance has to be at least 200 meters, while for smaller cities it goes up to 500 meters. Special conditions are applied to areas of special governmental care, such as islands and other remote areas.

A pharmacy has to have a minimum required area of 35m², a laboratory of at least 15m², dish washing area of 6 m², a storage area of at least 15m², manager's room of 6m², an
extra room for night shift if the pharmacy is providing one, special area for easily flammable and combustible chemicals, a wardrobe and a lavatory. A detailed description is provided also on the technical, IT, and laboratory equipment each pharmacy has to have. Different temperature refrigerators for medicines storages also have to be ensured. Professional books and manuals that have to be in every pharmacy are also defined. The broadband internet is also a necessity, since e-prescribing is implemented on a national level. Different records on all aspects of pharmacy activities have to be carefully noted.

Online pharmacies were first introduced in 2013 and are limited to dietary supplements and cosmetics sales only. But Croatia has so many pharmacies that it doesn’t take more than a few minutes’ drive to reach your local community pharmacists. Therefore some say there is not really even a need for an internet distribution of medicines.

Pharmacy services

Pharmacies in Croatia hold the exclusive right to supply and dispense human medicines. However pharmacists cannot prescribe medicines, it is still a right reserved for doctors only who prescribe the medicines by their brand names. Electronic prescribing is implemented from January 2011 at the national level. This also implies that all pharmacists have broadband internet connection, and use dispensing and stock management software.

For reimbursed medicines in some cases there is co-payment made by the patient. If the patient doesn’t hold an additional health insurance there is a 1.4 € participation, and for some medicines a difference in the price to be payed between drugs on A- and B-list needs to be paid as well. There are however patient categories that are exempt from this payment, e.g. children under 18, unemployed people, full-time students, and people with low incomes.

Non-prescription medicines, depending on their category, can be found in pharmacies only, or in pharmacies and specialized stores for retail sale of medical devices and medical products, but under the supervision of a pharmacist. Outside community pharmacies other traditional pharmacy products, such as herbal medicines, food supplements and vitamins, nicotine replacement therapies, and medical devices can be sold.

Hospital pharmacists are not yet an official part of the hospital team, but improvement with the introduction of clinical pharmacy health specialization has been made. Therefore more and more pharmacists can be found working on wards.

Besides dispensing prescriptions and repeat dispensing, which are remunerated by the Croatian Institute for Health Insurance, pharmacists are responsible for drug supply, production and quality control of magistral and officinal formulas, adverse drugs reporting, disposal of unwanted and out-of-date medicines, and giving information about medicines for health professionals and general population. Night services are also provided in Croatia. Very recently the Croatian Chamber of Pharmacists announced new Recommendations and Protocols for Point of Care testing and Screenings. Other services provided in community pharmacies are for example provision of emergency hormonal contraception service, weight measurement, medicines use reviews, new medicine service (counseling of the patients with newly prescribed medicine for long term conditions), harmonization of pharmacotherapy, consultation on side effect, medication reconciliation, monitoring of patients using anticoagulants, weight loss school, smoking cessation, counseling on metabolic syndrome management, asthma patients advising, chronic pain management, counseling on responsible self-medication and use of non-prescription medicines and other OTC products, and many others.
However, it is very important to emphasize that so far no remuneration is offered to pharmacists for these services. It is one of the main focuses of the Croatian Chamber of Pharmacists to ensure that the dispensing fee is far greatly compensated, and to achieve a way for remuneration of above mentioned services which for sure lead to responsible and rational medicines use and outcome, prevention and disease management and health promotion.

Special campaigns

Croatian pharmacists are also organizing numerous public health campaigns (e.g. World Diabetes Day, World COPD Day, World AIDS Day, European Antibiotic Awareness Day, World Health Day etc.) with promotional and educational character, focused on screening, prevention and healthy life style promotion.

Introduced for the first time in 2006, Croatian day of pharmacies is celebrated each year on 29th of October, in celebration of the first community pharmacy opened in Croatia, in Trogir in 1271. Croatian pharmacists also celebrate World Pharmacists Day on 25th of September introduced by the International Pharmaceutical Federation (FIP) in 2010.

With all this new, active approach, with additional services, with a step forward from a traditional dispensing role of a pharmacist, the perception of pharmacists in the public eye is changing. The pharmacist is no longer only a dispenser, a medicine seller with a focus on profit, but a true health care provider.

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3. photo, old pharmacy: Zeljko Tutnjevic

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FIP report recently published on the strategic development of medicines information

“Medicines information: Strategic development” is the first time that the implementation of medicines information, which is key to the safe and effective use of medicines, has been explored at a global level. Medicines information can be inaccurate, overwhelming, biased, unhelpful or simply not well understood. International Pharmaceutical Federation (FIP) has come out with a publication, which sets out a vision for collaboration and action towards ensuring high quality medicines information around the world, through the use of strategies. Find below some of the key points relating to medicines information development in low resource settings.

Strategic development of Medicine Information within medicines management policies in low resource settings

Dissemination Medicine Information (MI) to Healthcare professionals (HCPs) is a complex process. MI is an important issue specifically in developing countries, but due to lack of resources it does not have the facilities, equipment and human resources with the essential skills to support MI in health care systems. Countries with low resources settings, lack in adequate drug information due to limited availability of current literature as well as have poor documentation and dissemination of the available information. Generally references are not available and sometime biased information is disseminated, so dissemination of MI is often a faulty process. When countries develop economically and more resources become available, it becomes easier for health care systems to adapt MI in different facets of health management. At present, any system that has provided MI and used it meaningfully to achieve rational use of medicines, have been systems where the medicine is paid for by a “single payer”, and there is a strong interest in ensuring that medicines are used well, not only for health aspects but also financially.

Another approach is to integrate the concepts of MI into the existing medicine management practices to offer widespread access to health information, address the basic health needs of societies and the advantages of interactivity, information tailoring and anonymity. Each reliable source of MI is valuable; it is important to learn which source is best for the specific information being sought. HCP can find the most appropriate source of information, evaluate it quickly, and apply it confidently in their efforts to provide information for the best care of their patients.

MI can be embedded at various stages of medicines management, for example, in manufacturing, regulation, distribution and supply chain, maintaining health and other records, rational use of medicines and continuing educational and professional training. The biggest barrier to initiating drug information services is the lack of awareness of its necessity. In such cases, examples can be given of MI contributing to better health outcomes. Awareness can be promoted by Internet, television and computers, by providing offline CDs, various educational and training programmes, medical education programmes, face-to-face communication, and free mobile apps and graphics. Media based approaches, posters, audio tapes, radio and TV programmes play a crucial role to build the awareness.

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News and Training

IPA CPD invited at Annual General Meeting of Pharmaceutical Society of Sri Lanka, at Colombo

Mrs. Manjiri Gharat, Chairperson IPA CPD was invited to deliver a Key Note address in the Annual General Meeting of the Pharmaceutical Society of Sri Lanka (PSSL) on Sunday, 25th June 2017, at Colombo. PSSL office bearers, Drug Regulators, academicians and industry people from Sri Lanka attended this meeting. Mrs. Manjiri spoke about the need of Good Pharmacy Practices, and the need to have a national framework of quality standards and guidelines. She also shared several examples of the expanded role of the pharmacist globally.

She shared the Indian GPP situation, TB Project and overall IPA’s efforts to improve the pharmacy practice and medicine literacy. She also took this opportunity to inform delegates about FIP, FIP congresses, Pharmabridge project, and FIP Webinars and appealed to them to be part of FIP to get global exposure.

IPA CPD Invited at International Packaging Seminar, Tokyo, Japan

IPA Community Pharmacy Division was invited at International Packaging Seminar, Tokyo, Japan and Dr Guru Prasad Mohanta, Vice-Chairman, IPA CPD and Professor of Pharmacy at Annamalai University delivered a talk on Pharmaceutical Packaging in India on 11th July 2017 at Tokyo. This International Seminar was held as a part of the Annual Meeting of the Society. He used this opportunity to have discussion with Dr. Kiyomi Sadamoto, Clinical Pharmacy Professor of Yokohama University of Pharmacy, on various aspects of pharmacy practice. He visited a century old local pharmacy, Delightful Discovery of Drugstore, too.
The origin of pharmacy and pharmaceutical science lies in the creation and supply of medicines to treat patients. However, there is far more to the profession than that. This year’s FIP World Congress of Pharmacy and Pharmaceutical Sciences theme is “Medicines and beyond! The soul of pharmacy”, and it seeks to explore how pharmacists can go beyond medicines and be there to offer further services, advice and help to patients, adding even more value to their treatment and well-being.

More to pharmacy than medicines

“Medicines are the heart and soul of the profession. Without medicines, there really would be no profession of pharmacy,” explains Professor Chaar. “However, there’s now more to medicines than just the ingestion of a tablet or administration of a treatment. Pharmacy today encompasses services, electronic applications, new devices and gadgets, prevention measures and disease state management; going beyond the basic medicine.” With pharmacy and medicine comes a duty of care and the requirement to heal, and that is where the soul of the discipline lies. She adds: “Patients come to pharmacy for relief of pain and suffering, and we are able to help with the aid of medicines.”

Threat to the soul

Over time, we have seen increasing corporatisation of the pharmaceutical profession. Some fear that potential financial gain distracts from patient care that lies at the core of the soul of pharmacy. Professor Chaar notes, “The soul is in danger of deterioration at the hands of those who wish to render the profession an entrepreneurial business; commercialising our services and patient relationships to a point of no return. We do need to remind ourselves of our professionalism and our duty of care towards our patients, regardless of whether there is financial return or broad margins of profit.”
Collaboration cures all

With these concerns in mind, pharmacists continue to work together to ensure that the core values of medicine, healing and care are maintained and nurtured. For example, there are scientific advancements under development that will bring precision pharmacotherapy to patient groups, bringing specificity to a previous one-size-fits-all model. For this to be a success, academic researchers, with scientific and theoretical knowledge, are aligning with practitioners who have the practical expertise and personal skills, to bring the right treatments to the right patients. Encouraging this level of interdisciplinary collaboration within the profession is set to improve patient care and treatment efficacy globally.

Education and innovation are key

To truly nurture the soul, pharmacists must constantly expand and update their knowledge base and skill set. In this way, patients can be sure that the treatment they receive is the best available, and tailored if necessary. The education of pharmacists must also address their attitudes and values and motivate them to maintain the highest standards of professionalism and attention to patient care. With these instruments, pharmacists can offer the most appropriate medicines, care and advice as required by patients. Professor Chaar believes: “We need to be aware of the contemporary issues the profession struggles with — not hide in our dispensaries — and maintain a spirit of innovation and remodelling to ensure we are up to date with the times. We need to realistically understand and abide by ethical principles of practice. And, importantly, we need to reign in the commercialisation of our profession, and remind ourselves of our duties to our communities and the human race at large”.

Join us in Seoul

Pharmacists from across the globe will gather to discuss key issues related to the “soul of pharmacy” at the 2017 FIP world congress between 10 and 14 September. They will also discuss precision pharmacotherapy; pharmacy services, or value-added services; smart pharmacy and how technologies improve pharmacy; and will delve into the properties of natural medicines and their regulation. Professor Chaar notes: “This congress is unique due to the exceptional and inimitable gathering of pharmacists from around the world that come together as attendees, speakers and workshop leaders. The knowledge shared is cutting edge and of the highest quality. Each session has been chosen after meticulous analysis and screening. The people you will meet and networks you will set up are invaluable.”
FROM RESEARCH TO HEALTHCARE:
YOUR PHARMACIST IS AT YOUR SERVICE

#WORLDPHARMACISTSDAY

World Health Days

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<td>1st-7th August World Breastfeeding Week</td>
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<tr>
<td>21st September International Alzheimer's Day</td>
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<td>World Pharmacist Day</td>
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<td>World Rabies Day</td>
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<td>World Heart Day</td>
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<td>Breast Cancer Awareness Month</td>
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<td>World Osteoporosis day</td>
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<td>Global Iodine Deficiency Disorders</td>
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Upcoming Events

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<td>9th Indian Pharmaceutical Association (IPA) Students Congress</td>
<td>1st - 2nd, September 2017</td>
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<td>Rajahmundry, Andhra Pradesh</td>
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<td><a href="http://www.ipapharma.org">www.ipapharma.org</a></td>
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<td>77th FIP World Congress of Pharmacy and Pharmaceutical Sciences 2017</td>
<td>10th-14th September, 2017</td>
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<td>Seoul, Republic of Korea</td>
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<td>Website: <a href="http://www.fip.org">www.fip.org</a></td>
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