

*Association of Community Pharmacists of India
Manipal College of Pharmaceutical Sciences,
Manipal*

**COMMUNITY PHARMACY
INTERSHIP PROGRAM
REPORT**



*Prepared by:-Ms. Samreen Kaur Randhawa
B. Pharmacy (2nd year)
Department of Pharmaceutical Sciences,
Guru Nanak Dev University,
Amritsar, Punjab
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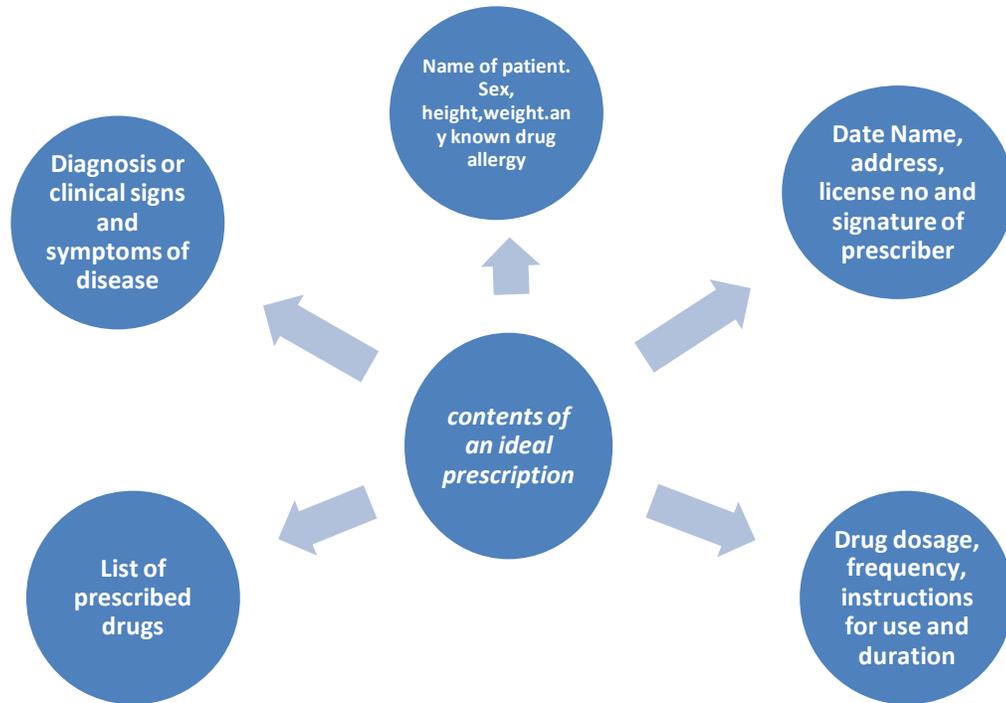
Ms. Rama Mylapuram

Prescription (*pre*-before, *script*-written)

A prescription is a healthcare plan implemented by any physician /registered medical practitioner in form of instructions which govern the plan of care of an individual patient.

It is denoted by symbol "**Rx**".

A registered pharmacist dispenses medication according to the prescription only.



Often there are many abbreviations used in a prescription, few examples are cited below:

Tab	Tablet	OD	Once a day	AC	Before meal
Cap	Capsule	BD/bid	Twice a day	L/A	Local application
Inj	Injection	TD/tid	Thrice a day	SOS	As per requirement
Lin	Liniment	QD/qid	Four times a day	HS	At bedtime
OC	Ointment	dc, D/C	Discontinue	ad	Right ear
Syr	Syrup	D5NS	dextrose 5% in normal saline (0.9%)	Tbsp/Tsp	Tablespoon /teaspoon

A sample prescription

<p>Dr. Full Name, M.B.B.S., M.D. Reg. No.: GMC xxxx Address : Full Address, Tel No.: xxxxxxxx</p>	<p>Complete information about the prescriber.</p>	
<p>Date :xx/xx/xx</p>	<p>Date of issuing of prescription.</p>	
<p>Patients' Name : _____</p> <p>Age _____ Sex : _____</p> <p>Patient's Address : _____</p>	<p>Information about the patient.</p>	
<p>Rx</p> <p>1. Valium 5 mg 1 tab hs x 20 --- 20 tab</p>	<p>The drug prescribed along with instructions for usage.</p>	
<table border="1"><tr><td>DISPENSED Date : ____ Pharmacist : ____ Name of Pharmacy City</td></tr></table>	DISPENSED Date : ____ Pharmacist : ____ Name of Pharmacy City	<p>Date of dispensing and pharmacy where it has been dispensed</p>
DISPENSED Date : ____ Pharmacist : ____ Name of Pharmacy City		
<table border="1"><tr><td>Doctor's usual sign, Dr.'s Full name, Qual.(MBBS), Reg. No.</td></tr></table>	Doctor's usual sign, Dr.'s Full name, Qual.(MBBS), Reg. No.	<p>Prescriber's signature along with stamp.</p>
Doctor's usual sign, Dr.'s Full name, Qual.(MBBS), Reg. No.		

Prescription Handling

A pharmacist is responsible for completion of prescription. Prescription Handling is the first and foremost activity of pharmacy practice, any pharmacist should be efficient at.

When a prescription is presented to a pharmacist, he / she needs to exercise a few basic steps as cited below:

- While receiving prescription, no comments or discussion over therapeutic efficiency of prescription should be there.
- While receiving prescription, a pharmacist should not show any expression of astonishment or alarm, thereby causing anxiety in patients or their agents regarding their prescription, diseased state or physician even.
- A pharmacist should ask the patients or their agents for
 - Any known allergic drug reactions
 - Chronic conditions
 - Other drugs patient is taking including OTC drugs like aspirin, antacids etc.
- A pharmacist should review or screen the prescription, should refer to physician if he/she has any queries regarding :
 - drug dosage
 - Length of treatment
- Any question on a prescription should be answered with every caution and care.
- A pharmacist is not supposed to add, omit or substitute any ingredient or alter any composition of the prescription without the consent of prescriber.
- While dispensing of the prescription a pharmacist needs to use correct weights & measures, avoid any guess work or approximation.
- A pharmacist should avoid usage of sub-standard or spurious drugs and should not dispense schedule G, H & X drugs without prescription.
- While refilling a pharmacist should abide by instructions of the prescriber.
- It is the moral duty of pharmacist to counsel patient about proper drug administration, correct dosage and time.
- A pharmacist should encourage the patient to show compliance with the prescription.
- A pharmacist needs to be very careful and judicious while dealing with drugs which can be poisonous or carry abuse potential.
- A pharmacist should charge the right price from the patient including the applicable taxes, prescription handling charges etc.

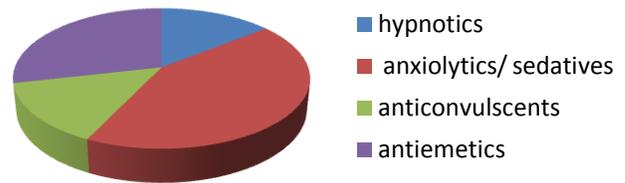
Report

A study of fifty prescriptions was carried out for better understanding of the concept of prescription handling. The parameters undertaken were as follows:

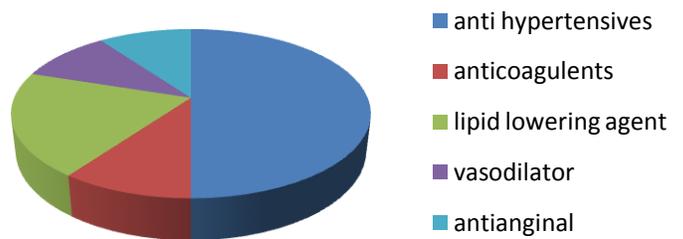
1. Patient's name, sex & age.
2. Brand name of the drug.
3. Generic name of the drug.
4. Strength of drug prescribed.
5. Quantity of drug prescribed.
6. Instructions for drug usage.
7. Any major drug interactions were noted.

DRUGS	
<i>TYPE</i>	<i>QUANTITY</i>
CNS DRUGS	TOTAL =07
Hypnotics	01
Anxiolytics /Sedatives	03
Anti-convulscents	01
Anti-emetics	02
CVS DRUGS	TOTAL=20
Anti- hypertensives	10
Anticoagulants	02
Lipid Lowering Agents	04
Vasodilators	02
Anti-anginal	02
Respiratory System Drugs	TOTAL = 06
Anti-asthmatics	02
Expectorants	03
Mucolytics	01
ANTIBACTERIAL	TOTAL =04
ANTIMALARIALS	TOTAL =03
ANTIINFECTIVE (SKIN)	TOTAL =04
ANTIFUNGAL (TOPICAL)	TOTAL =04
NUTRITIONAL SUPPLIMENTS	TOTAL =15
ANTIOBESITY	TOTAL =02
ANTIALLERGIC	TOTAL =04
ANALGESIC/ANTIPYRETIC	TOTAL=20
ANTIULCERATIVE	TOTAL=03

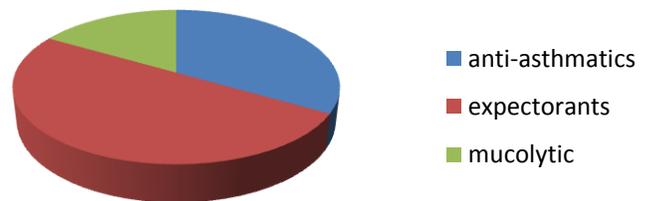
CNS Drugs



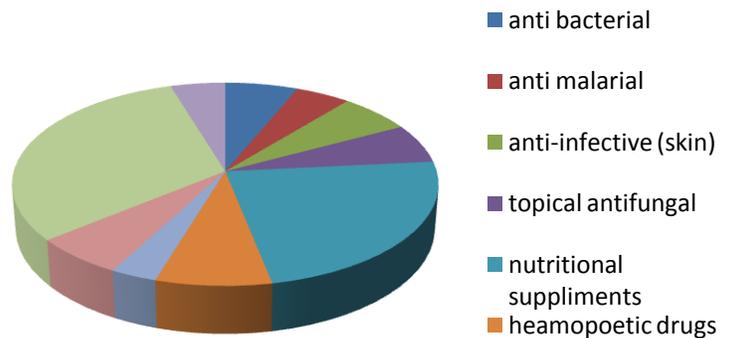
Cardiac Drugs



Respiratory System Drugs



Other Drugs



Drug Store Management

Drug store management is a vital step for efficient running of a pharmacy. It has following aspects:

- The first aspect is the procurement of drugs *viz.* purchase of the drugs .

The four basic strategic objectives while procuring drugs are as follows:

1. Procure the most cost-effective drugs in the right quantities
2. Select reliable suppliers of high-quality products
3. Ensure timely delivery
4. Achieve the lowest possible total cost

- The second aspect is stocking of drugs.

This is directly related to sales of drugs i.e. more is the sale of a particular drug, more stock you need to keep. The stocking of drug will depend upon source of prescription, for instance whether a private doctor has prescribed, or prescription is of in and out patients in a hospital etc. Apart from this sales of some general medications like cosmetic medicines, surgical, food supplement , seasonal drugs etc.

While stocking of drugs, rotation is very important. We follow the first come first sales arrangement i.e. the first procured batch of drug is sold prior to its subsequent batches..The oldest products are kept in front (process called as facing).

- The third aspect is the arranging of drugs in a pharmacy.

In hospital pharmacy and bulk pharmacy the drugs can be arranged in alphabetical order with their category (For e.g. anti-histaminics , anti-hypertensives, anti-tussives and so on.)

In community pharmacy the drugs can be arranged with respect to the manufacturers (For e.g. Cipla, Himalaya, Ranbaxy, Glenmark and so on.)

- The fourth aspect is the storage of drugs in a pharmacy.

While storing drugs we need to follow appropriate conditions in order to maintain integrity of the drug. These may include low exposure to light, low temperature or low humidity in some cases. For e.g. vaccines & blood products are either kept in cold room or are refrigerated.

Generally drugs are stored according to drug manufacturer's specifications which are cited on package label.

- The fifth aspect is the inventory control of pharmacy.

It implies supervision of supply, storage and accessibility of drugs in order to insure an adequate supply without excessive oversupply.

This can be achieved with help of keeping a record of what all drugs stocks are about to finish and then order accordingly. Such a record can be drawn on a notebook or with help of computer using certain software like Hospital Gate, Clinical Gate etc.

- The sixth aspect is the handling of expired drugs in a pharmacy.

The expired drugs are generally sent back to the distributor, every pharmacy follows some pact or expiry rules with the distributor so as to determine the time period when the drugs are to be returned back before the expiry date of the drug is achieved.

For e.g. If stock is sent back 3 months before the date of expiry, 65% of the price paid for stock is returned . If stock is sent after date of expiry, 50% of the price paid for stock is returned.

Computer Skills

The computer services forms an integral part of pharmacy practice today so a pharmacist needs to have eminent computer skills and software knowledge.

- ✓ Computers are used for various purposes such as *Prescription handling, maintenance of stocks, tax return purposes, Drug information, Billing ,website search and so on.*
- ✓ There are number of software's which are being used. e.g.: - *Hospital Gate, Clinic Gate etc.*
- ✓ These soft wares are used to maintaining the records in the pharmacy and for billing.
- ✓ The computer shows the data which has been entered and maintained continuously during the purchase, stocking and sale of the drugs.
- ✓ The different copies of the bills are being produce d by the computer.For instance in community pharmacy the three copies of bills are produced in which the one copy goes to the patient , one goes to the pharmacist who is dispensing the drugs and one goes to the cashier.
- ✓ For seeking drug information we use special designed software which provide complete information regarding various aspects related to drugs.

For e.g. ***Micromedex*** is a drug information resource that contains a variety of databases including: *AltMedDex , Drugdex , Index Nominum, Martindale, Physician's Desk Reference (PDR), Poisindex, Reprorisk, and USP DI.*

Where Drugdex, USP DI and Martindale contain drug monographs, which provide information on adverse reactions, dosing, mechanism of action, storage, use, administration, and comparative studies.Martindale and Index Nominum contain information on the names of international drugs. The Physician's Desk Reference (PDR) contains the package insert information for FDA-approved drugs. Reprorisk evaluates the human reproductive risks of drugs. AltMedDex provides information on herbals, supplements, and alternative therapies. Poisindex provides information on identifying and managing drug overdoses & toxicology exposures.

Regulatory Issues

The regulatory requirements related to starting a community pharmacy in India are as follows:

- The dully filled license application form should be submitted with the required documents and the respective fees at the licensing authority.
- The person should have minimum required qualification i.e. diploma or degree in pharmaceutical sciences.
- Minimum area of about 1000 square feet.
- The refrigerator for the cold storage of drugs like vaccines, blood products, insulin etc.
- Qualified staff members.
- The Vat / CST number from the local tax number.
- The registered pharmacist should be present during the inspection.
- The inspection book should be maintained.
- The expiry register should be maintained.
- The drugs sold or purchased should be filed in separate files and records should be maintained.

Ethical issues

The pharmacist should maintain the laws and rules related to his profession in the country.

The pharmacist should maintain the code of ethics like:

- Name and address of the patient should be maintained
- The pharmacist should not sell schedule G, H and X drugs without the prescription of registered medical practitioner.
- The license of the pharmacy should be displayed at the prominent place so that it's visible.
- The prescriptions are to be preserved and the sold drugs should be filed.
- The Expiry register should be maintained.
- The pharmacist should not have the cut throat competition with his fellow pharmacist.
- The pharmacist should not sell the sub standard, adulterated or spurious drugs.
- The pharmacist should not do the hawking of the drugs.
- The pharmacist should tell the patient about the side effects of the self medication.
- The pharmacist should not give any advertisements in wrappers, news paper or journals about the efficacy of its pharmacy.
- The pharmacist should not do anything which hinders the profession of pharmacy.
- The Pharmacist should adapt the better regulation such as:-Good Manufacturing Practice(GMP), Good Laboratory Practice(GLP), Good Regulatory Practice (GRP)

Pharmaceutical Care

One of the most important roles that pharmacists are currently taking on is one of pharmaceutical care. Pharmaceutical care involves taking direct responsibility for patients and their disease states, medications, and the management of each in order to improve the outcome for each individual patient.

Pharmaceutical care has many benefits that include:

- Decreased medication errors
- Increased patient compliance in medication regimen
- Better chronic disease state management
- Strong pharmacist-patient relationship

Pharmacists are often the first point-of-contact for patients with health inquiries. This means that pharmacists have large roles in the assessing medication management in patients, and in referring patients to physicians.

These roles may include:

- clinical medication management
- The assessment of patients with undiagnosed or diagnosed conditions and for decisions about the clinical medication management required.
- Specialized monitoring of disease states
- Reviewing medication regimens
- Monitoring of treatment regimens
- General health monitoring
- Compounding medicines
- General health advice
- Providing specific education to patients about disease states and medications
- Oversight of dispensing medicines on prescription
- Provision of non-prescription medicines
- Counseling and advice on optimal use of medicines
- Advice and treatment of common ailments
- Referrals to other health professionals if necessary
- Dosing drugs in renal and hepatic failure
- Pharmacokinetic evaluation
- Education of physicians and other health care providers on medications and their proper use
- Limited prescribing of medications only in collaboration with other health care professionals
- Providing pharmaceutical information

Patient Counselling

Patient counseling is defined as providing medication information orally or in written form to the patients or their representatives on directions of use, advice on side effects, precautions, storage, diet and life style modifications.

Objectives of patient counseling are :

- ✓ Patient should recognize the importance of medication for his well being.
A working relationship and a foundation for continuous interaction and consultation should be established.
- ✓ Patient's understanding of strategies to deal with medication side effects and drug interactions should be improved.
- ✓ Should ensure better patient compliance.
- ✓ Patient becomes an informed, efficient and active participant in disease treatment and self care management.
- ✓ The pharmacist should be perceived as a professional who offers pharmaceutical care.
- ✓ Drug interactions and adverse drug reactions should be prevented.

Patient counseling consists of three stages:

1. Introduction
2. Process Content and Issues regarding manner
3. Conclusion.

Introduction

- ✓ Review the patient's record
- ✓ Introduce your self
- ✓ Explain purpose of counseling
- ✓ Obtain drug related information such as allergies, use of herbals etc.
- ✓ Assess the patients understanding of the reasons for therapy
- ✓ Assess any actual and / or potential concerns or problems of importance to the patient.

Process Content and Issues regarding Manner

- ✓ The medicine's generic and brand name
- ✓ How it helps the patient.
- ✓ How it makes him/her feel
- ✓ How long it takes to begin working
- ✓ How much to take at one time.
- ✓ How often to take the medicine.
- ✓ How long it will be necessary to take the medicine

- ✓ When to take it : before, during, after meals? At bed time? At any other special times.
- ✓ How to take it? With water? With fruit juice? How much?
- ✓ What to do if you forget to take it (miss a dose)
- ✓ Foods, drinks, or other medicines that you should not take while taking the medicines.
- ✓ Restrictions on activities while taking the medicine
- ✓ Possible side effects. What to do if they appear. How to minimize the side effects. How soon they will go away.
- ✓ When to seek help if they are problems
- ✓ How long to wait before reporting no change in symptoms.
- ✓ How to store the medicine
- ✓ The expiration date
- ✓ The cost of the medicine
- ✓ How to have your prescription refilled, if necessary
- ✓ Necessity to complete the course.
- ✓ Drug-Drug, Drug-Food interactions
- ✓ Supply medication reminder chart.

Issues regarding Manner:

- ✓ Use language that the patient understands
- ✓ Use appropriate counseling aids
- ✓ Present facts and concepts in simple words and in logical order
- ✓ Use open ended questions.

Conclusion:

- ✓ Verify the patient's understanding by means of feedback
- ✓ Summarize by emphasizing key points
- ✓ Give an opportunity to the patient to put forward any concerns.
- ✓ Help the patient to plan follow-up

Some Important Aspects in Counselling

- ✓ **Environment**- The environment should be conducive to proper interaction between patient and pharmacist. There should be privacy and enough time for proper interaction
- ✓ **Benefits**- patients get a lot of benefit by way of information. Pharmacists get benefit by way of better business.
- ✓ **Barriers are three types.**
 - **Patient Based Barriers** patient may not like to listen. He/ she may have some disadvantage/ may not know your language/ may feel shy or inhibited . These barriers must be overcome with patience, However if the patient is reluctant about accepting advice , it is better to leave him and not insist on giving advice.
 - **System Based Barriers**- The owners of the establishment may not like patient counseling or there may not be enough space where counseling may be done.
 - **Provider Based Barriers** - The pharmacist who is giving the counseling may have problem with language or subject or some other problem may be there. All these barriers must be overcome to be able to give proper patient counseling.

Patient Counselling on Diabetes Using Pictograms:

What is diabetes?

Diabetes is a disease condition in which a person has **high blood sugar** either because body doesn't produce insulin or body doesn't respond to insulin produced by our body .

what happens during diabetes?

- In type 1 diabetes: pancreas are unable to produce insulin, lack of insulin means glucose cannot enter cells of our body and remain in blood stream only, as a result we have high blood sugar level.
- In type 2 diabetes : pancreas though produce insulin, but are body cells are not able to respond to it, which also results in high blood sugar level.

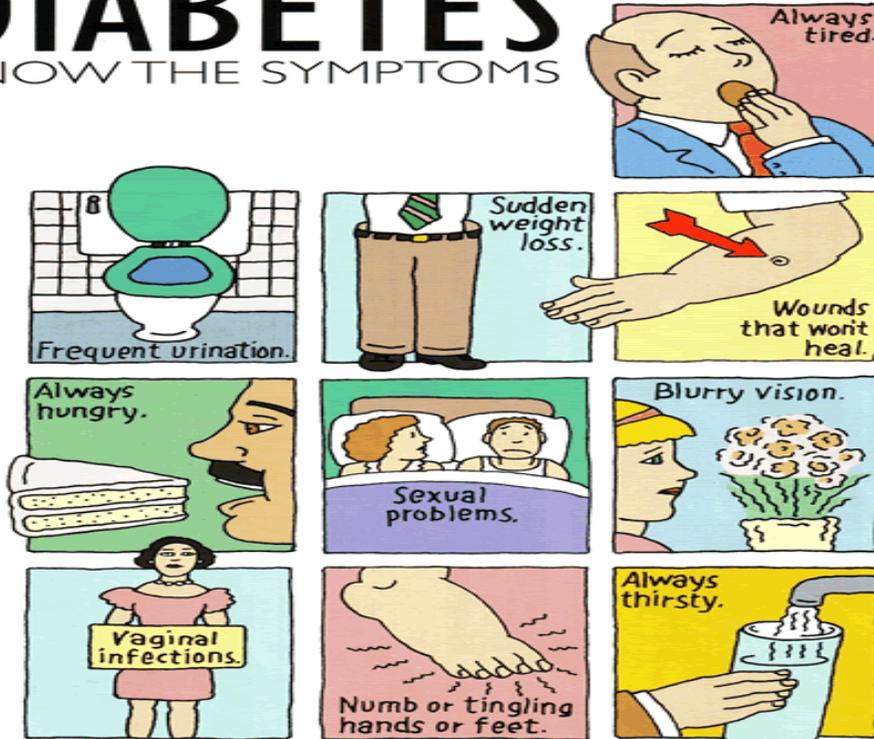
What are the causes of diabetes?



What are symptoms of diabetes?

DIABETES

KNOW THE SYMPTOMS



How to know if you are diabetic?

We can take following tests to know our blood sugar levels :

- ✓ Random Blood Sugar Test(RBS)
- ✓ Fasting Blood Sugar Test(FBS)
- ✓ Post Prandial Blood Sugar Test(PPBS)

Test	Normal value (mg/dl)	Pre diabetic (mg/dl)	Diabetic (mg/dl)
RBS	70-130 (BEFORE MEAL) LESS THAN 180 (AFTER MEAL)	MORE THAN 180	MORE THAN 200
FBS	70-100	101-126	MORE THAN 126
PPBS	LESS THAN 140	UPTO 200	MORE THAN 200

How to cope up with diabetes?

- By keeping a check on your blood glucose level on daily basis.
- By changing your food pattern
- By inculcating habit of workout etc
- Through drug and insulin therapy



Keeping an eye on blood glucose levels

It can be done with help of a Glucometer.

It helps in keeping a daily basis record of sugar level of blood. Thus help in control of diabetes.



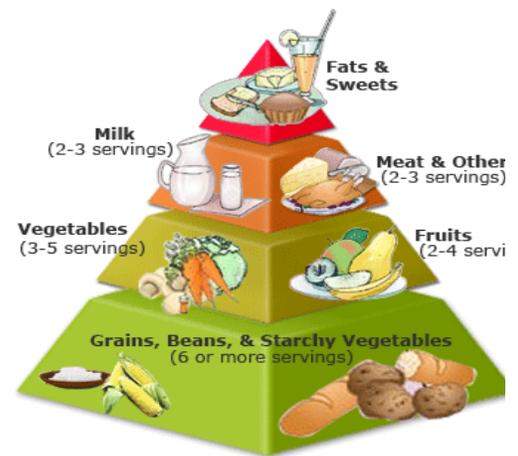
Changing of food pattern

You can take good care of yourself and your diabetes by learning

- what to eat
- how much to eat
- when to eat

Making wise food choices can help you

- feel good every day
- lose weight if you need to
- lower your risk for heart disease, stroke,
- other problems caused by diabetes



Food to avoid in diabetes:

- Salt
- Sucrose
- Fat
- Tea /coffee
- Whole milk and products
- Red meat and eggs
- White flour products
- Food with high glycemic value like banana, white rice ,potato, breads etc as they increase blood sugar level

Foods which can be beneficial in diabetes:

- Bitter gourd
- Fenugreek (methi)
- Indian blackberry (jamun)
- Garlic
- Onion

Workout for diabetic control

- Physical activity is an important part of staying healthy and controlling your blood glucose. Keep these points in mind:
- Talk with your doctor about what types of exercise are safe for you.
- Make sure your shoes fit well and your socks stay clean and dry. Check your feet for redness or sores after exercising. Call your doctor if you have sores that do not heal.
- Warm up and stretch for 5 to 10 minutes before you exercise. Then cool down for several minutes after you exercise. For example, walk slowly at first, stretch, and then walk faster. Finish up by walking slowly again.
- Ask your doctor whether you should exercise, if your blood glucose level is high.
- Ask your doctor whether you should have a snack before you exercise.
- Know the signs of low blood glucose, also called hypoglycemia. Always carry food or glucose tablets to treat low blood glucose.
- Always wear your medical identification or other ID.



Through drug therapy

- Diabetes is controlled with help of certain drugs like gliclazide, glimepiride etc.
- Exogenous Insulin is given with help of insulin pens



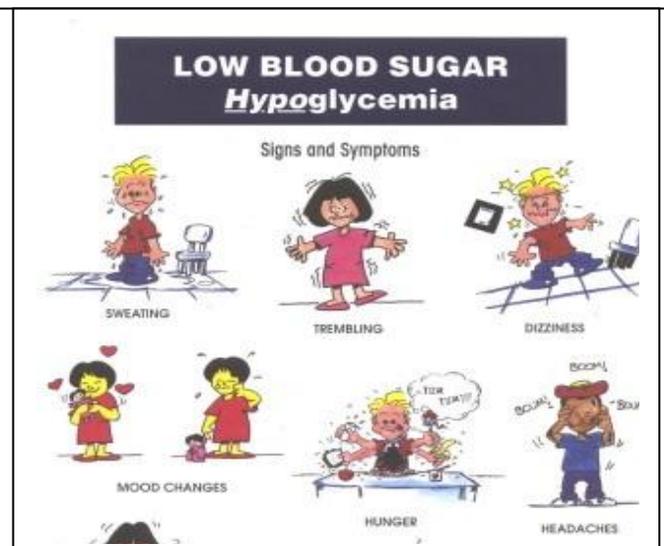
Hypoglycemia..

- Your blood sugar level may suddenly fall giving rise to a condition called hypoglycemia.
- Low blood glucose can make you feel shaky, weak, confused, irritable, hungry, or tired. You may sweat a lot or get a headache.

What to do if you have hypoglycemia?

If you have the symptoms of hypoglycemia, check your blood glucose. If it is below 70, have one of the following right away:

- 3 or 4 glucose tablets
- 1/2 cup (4 ounces) of any fruit juice
- 1/2 cup (4 ounces) of a regular (not diet) soft drink
- 1 cup (8 ounces) of milk
- 5 or 6 pieces of hard candy
- 1 tablespoon of sugar or honey
- After 15 minutes, check your blood glucose again. If it's still too low Repeat these steps until your blood glucose level is 70 or higher. If it will be an hour or more before your next meal, have a snack as well.



Patient Data

<i>Name of person counselled</i>	<i>Completely Satisfied</i>	<i>Satisfied</i>	<i>Unsatisfied</i>
<i>Mr.Purshotam Gandhi</i>	<i>Yes</i>	<i>-----</i>	<i>-----</i>
<i>Mrs .Yashoda Mundi</i>	<i>-----</i>	<i>Yes</i>	<i>-----</i>
<i>Mr .Vagare Maniappa</i>	<i>-----</i>	<i>Yes</i>	<i>-----</i>
<i>Mr .Rudrappa K.B.</i>	<i>Yes</i>	<i>-----</i>	<i>-----</i>
<i>Mrs .Mohini Shetty</i>	<i>-----</i>	<i>-----</i>	<i>Yes</i>
<i>Mrs.Reeta Fernandes</i>	<i>Yes</i>	<i>-----</i>	<i>-----</i>
<i>Mr .Manjunath P.</i>	<i>-----</i>	<i>Yes</i>	<i>-----</i>
<i>Mr.Sadaf Qureshi</i>	<i>Yes</i>	<i>-----</i>	<i>-----</i>
<i>Ms .Neelima</i>	<i>-----</i>	<i>Yes</i>	<i>-----</i>
<i>Mrs.Sangeetha K.</i>	<i>Yes</i>	<i>-----</i>	<i>-----</i>

Report

After counseling ten persons for diabetes mellitus the data generated shows that 50% of the patients were completely satisfied, 40% were satisfied while 10% were unsatisfied.

Therefore according to the survey, there is high need of proper patient counseling regarding diseases to enable the patient to have proper knowledge of his/her disease.

Observation

This internship program made me aware of various aspects of community pharmacy. The training at Manipal Drug Store made me compatible for prescription handling and dispensing of medication.

Further I was exposed to knowledge about inventory control , legal and ethical aspects related to pharmacy.

At Department of Pharmacy Practice, I was exposed to drug information services, adverse drug reaction reporting, pharmaceutical care, patient counseling etc.

At ACUNOVA, I was exposed to various aspects of carrying out clinical trail studies. This gave me insight of Phase I - IV clinical studies including clinical trial management, Clinical Data Management, BA, BE services and the Central Lab.