

THERAPEUTICS : A STATE OF THE ART

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ABSTRACT:

In Pakistan also there has been tremendous awareness of questions relating the safety, efficacy, quality and economic value of drugs. Professionals are equally concerned about these vital aspects, but it has been felt that there is a communication gap between regulatory authorities, institutions, doctors, pharmacists, pharmacologist and the public on various matters concerning drugs.

Most potent drugs like antibiotics, psychotropic, narcotics, anticancers, hormones are being misused by un-trained doctors or by quacks or through self medication due to lack of co-ordination among the relevant professionals.

It is envisaged that the term therapeutic must be adopted in its real sense and therapeutic committees should be constituted at institutional and at community levels to stop the hazards of misuse of potent drugs and medicines.

DISCUSSION

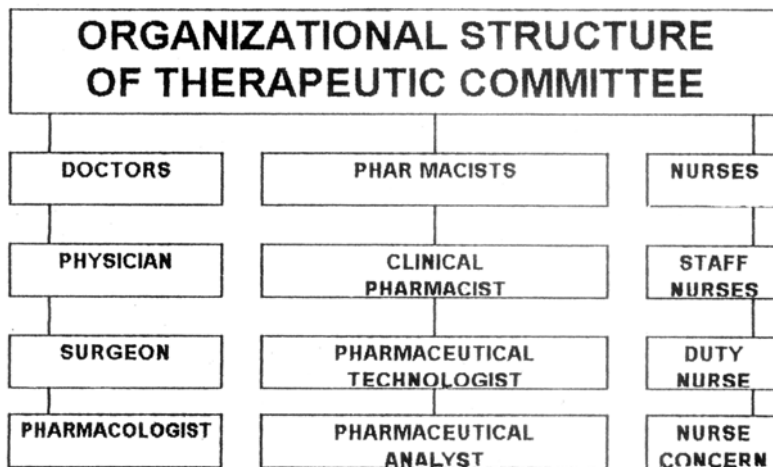
The necessity of THERAPEUTICS COMMITTEE is a need rather than desired. The technical aspects of therapeutics committee in developed countries is a subject involving multidisciplinary aspects. In under developing countries like Pakistan there are diversified problems, thus the therapeutic committees has not been established in its real sense. The basic aspects and significance for implementation of therapeutics committees at all levels is delineated herewith.

Therapeutic is a science and art of treating patient. All medical professionals like Physicians, surgeons, pharmacists, pharmacologists, technologists and nurses all are professionals for the service of ailing. When they work and effort jointly they form a "Therapeutics Committee" at institutional level or at community level. A

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single professional is nothing but a joint effort make the medical profession most reliable and perfect to all aspects. The organizational structure is given in scheme 1.

SCHEME NO.1



Generally drugs and medicines have played a vital role in the mitigation, prevention and cure of disease since time immemorial. They are essential for advancing health standards and alleviating the sufferings of ailing humanity. Accordingly, medicaments are becoming highly important within the health policies of the countries world wide.

In Pakistan there has been tremendous awareness of question relating to the safety, efficacy, quality and economic value of drugs. Professionals are equally concerned about these vital aspects. A blue print of awareness of safety leading to economic value of drug is shown in scheme 2.

SCHEME NO.2



TABLE NO.1**MAIN PHARMACOLOGICAL GROUPS:**

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1. ANESTHETICS:
General Anesthetics and Oxygen, Local anesthetics, Neuromuscular Blocking Agent, Miscellaneous.
 2. ANALGESICS, ANTIPIRETICS, NON-STEROIDAL ANTI INFLAMMATORY DRUGS AND DRUGS USED TO TREAT GOUT.
Opioid Analgesics, Non Opioid Analgesics, Local analgesics.
 3. ANTI-ALLERGIES AND DRUGS USED IN ANAPHYLAXIS:
 4. ANTIDOTES AND OTHER SUBSTANCES USED IN POISONING:
 5. ANTI-EPILEPTICS:
 6. ANTI-INEFFECTIVE DRUGS:
Anthelmintics, Anti-Bacterial, Anti-Leprosy Drugs, Anti-Tuberculosis Drugs, Anti-Fungal Drugs, Anti-amoebic Drugs, Anti-Leishmaniasis Drugs, Anti-Viral Drugs, Anti-Malarial Drugs and prophylactics
 7. ANTIMIGRAINE DRUGS:
 8. ANTI-NEOPLASTICS, IMMUNOSUPPRESSIVES AND DRUGS USED IN PALLIATIVE CARE.
Immunosuppressive Drugs
 9. ANTIPARKINSONISM DRUGS
 10. BLOOD, DRUGS AFFECTING
Anti-Anaemic Drugs, Drugs Affecting Coagulation.
 11. BLOOD PRODUCTS AND PLASMA SUBSTITUTES
 12. CARDIOVASCULAR DRUGS
 13. DERMATOLOGICAL DRUGS
 14. DIAGNOSTIC AGENTS
 15. ANTISEPTICS AND DISINFECTANTS
 16. DIURETICS
 17. GASTROINTESTINAL DRUGS
 18. HORMONES, OTHER ENDOCRINE DRUGS AND CONTRACEPTIVES
 19. IMMUNOLOGICALS
Diagnostics, Sera and Immunologicals, Vaccine for Universal Immunization, Vaccines for specific use, Immunosuppressants.
 20. MUSCLE RELAXANTS AND CHOLINESTERASE INHIBITORS
 21. OPHTHALMOLOGIC PREPARATIONS
Anti-ineffective Agents, Miotics and Anti-Glaucoma Drugs, Mydriatics and Cycloplegics
Drugs, Corticosteroids, Non-steroidal Antiallergic Decongestants, Topical Anaesthetics, Others.
 22. OXYTOXICS AND ANTIOXYTOXICS
 23. PERITONEAL DIALYSIS SOLUTION
 24. PSYCHOTHERAPEUTIC DRUGS
 25. DRUGS ACTING ON THE RESPIRATORY TRACT
 26. SOLUTIONS CORRECTING WATER, ELECTROLYTE AND ACID BASE DISTURBANCES
 27. VITAMINS AND MINERALS
 28. E.N.T. PREPARATIONS
 29. DENTAL PREPARATIONS
 30. DISPENSARY ITEMS
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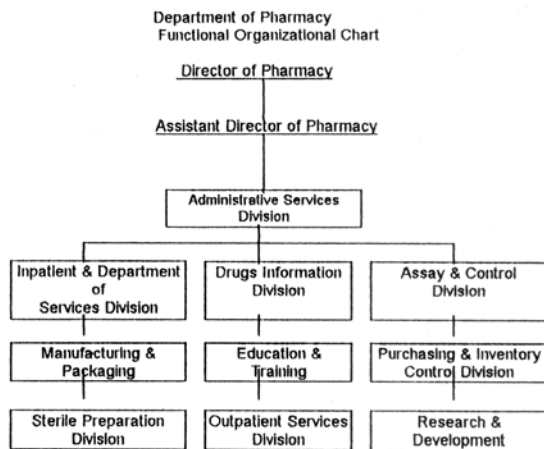
- c. Adverse drug reactions, incompatibilities, toxic effects and side effects of individual drugs or pharmacological groups by Pharmacologists.
- d. Technical tips which can help in the safe treatment of patients and prevention of misuse of drugs by all therapeuticians.

TABLE NO. 2

PHARMACY MANAGEMENT & ADMINISTRATIVE SERVICES DIVISION.

1. Scheduling of Personnel and Overall Supervision.
 2. Planning and Directing Departmental Activities.
 3. Integrating Pharmacy Service within the hospital.
 4. Policy and Procedure Manual Revision.
 5. Budgeting Controls.
 6. Pharmacy and Therapeutics Committee Activities.
 7. Pharmacy-Nursing Committee Activities.
 8. Records, Reports and Analysis of Data.
 9. Drug Data Processing Activities.
 10. Supervision of all Secretarial, receptionist and Office Activities.
- e. Practical training of therapeuticians at National Level or at International Level.

SCHEME NO.4.



The dilemma of this country is the misuse of all kinds of drugs. It is emphasized on safe drug delivery to minimize self medication and quackery through rational use by way of "Drug on Prescription only" and an ideal prescription always possess most wanted drugs. The Drug Licensing and Registration Board of Federal Ministry of Health has recommended to Provincial Governments to ensure that antibiotics, anti-cancers, hormones, psychotropics and narcotics should be sold on prescription from a registered medical practitioners. These can be described as follows in Table 3-6.

TABLE NO. 3

"SCHEDULE "E" (see rule 18) Sindh drugs rules 1979."

TO BE SOLD BY A RETAILER ON THE PRESCRIPTION OF REGISTERED MEDICAL PRACTITIONER:

Adrenocorticotrophic HORMONE (ActH)

Androgenic, Anabolic, oestrogenic and progestational substances, the following:

BENZOESTROL:

Derivatives of stilbene, dibenzylor naphthalene, with estrogen activity & their esters.

STEROID:

Compounds with androgenic or anabolic oestrogenic or progestational activity, their esters.

ANTIBIOTICS:

Specified below, their salts and derivatives and salts of their derivatives.

BACITRACIN	OXYTETRACYCLINE
CARBOMYCIN	PENICILLIN
CHLORTETRACYCLINE	PARAMOMYCIN
COLIMYCIN	POLYMYXIN
DIHYDROSTREPTOMYCIN	STREPTOMYCIN
ERYTHROMYCIN	TETRACYCLINE
FRAMCETIN	VANCOMYCIN
GRAMICIDIN	VIOMYCIN
KANAMYCIN	AMITRIPTYLLINE, ITS SALTS
NEORRYCIN	ANTIHISTAMINE SUBSTANCES, THE
NOVOBIOCIN	FOLLOWING, THEIR SALTS, THE DERI
	VATIVES, SALTS OF THEIR DERIVATIVES.
OLEANDOMYCIN.	

TABLE NO.4

(b)

ANTAZOLINE:	THENALIDINE,(1-METHYL4-AMINO-N-PHENYL-N,
BROMAZINE	(2-PHENYL PIPERIDINE) TARTRATE SUBSTANCES
BUCILIZINE	BEING TETRA-SUBSTITUTED N-DERIVATIVES OF
CHLOCYCLIZINE	ETHYLENE DIAMINE OR PROPYLENE DIAMINE.
DISPHENUYLDRA	AZAPETINE ITS SALTS
MINE	
DISPHENYLPYRA	AENACTYZINE ITS SALTSBENDROFLUASIDE LINE
DI-N-BUTY-AMINOETHY 1-4	
5:6, TRI-HYDROXPHTHALIDE	BRETHYLUM TOSYLATE
INSOTHIPENDYL-(N-DIMETHY)	
IAM-NOISOPRAPY PYRIDYL	CHLORISONDAMINE CHLORIDE
AMINE	
MECLAZINE	CHLORMEZANONE
	CHIORPROMAZINE ITS SALES
PHENINDAMINE	CHIRORPORMAZINE: ITS SALTS
	CHLORPROTHIXENE
PHENIRAMINS	CHLORTHIAZIDE
PROMETHAZINDE	CITRATED CALCIUM CARBIMIDE,
PROPHENPYRIDAMINE	CLIDINIUM BROMIDE

Cortisone, hydrocortisone, prednisons, prednisolone, triamcinolone and dexamethazone; their esters, their DERIVATIVES.

CYCLOPENTHIAZIDE
 DITHIAZININE IODIDE
 ETHIONAMIDE
 GLUTETHIMIDE, ITS SALTS
 HEXOCYCLIUM METHYL SULPHATE
 HYDROCHIORTHIAZIDE
 HYDROFLUMITHIAZIDE
 HYDROXYZINE, ITS SALTS
 IMIPRAMINE, ITS SALTS

TABLE NO.5

(c)

Iron preparations for parinteral use

Isocarboxacid

Isonicotinic acid hydrazide and other hydrazine derivatives, of Isonicotinic acid, their derivatives, salts.

Isoxsuprine.

Meproamate

Methaqualone, its salts

Methylchlothiazide

Methlpentynhot, its esters and other derivatives

Metronidazole

Nilamide, its salts

Oxytocin, prepared from the pituitary body or by synthesis Para-aminosalicylic acid, its salts its derivatives their salts Pempidine, its salts

Pecezine, its salts

Pheneizine; its salts

Phenothiazine, derivatives of and salts of its derivatives not otherwise SPECIFIED, in this schedule.

Phenynamidol, its salts

Pituitary gland, the active principles of not otherwise specified in this schedule, and their salts.

Pivazide

Pyrvinum its salts

Sorbide Nitrate

Spiranolactons etc, etc.

Thiazide & its derivatives

**TABLE NO. 6 NARCOTIC DRUGS UNDER INTERNATIONAL CONTROL
(SINGLE CONVENTION ON NARCOTIC DRUGS, 1971)**

S.NO.	NARCOTIC DRUGS	SCHEDULE
01.	Difenoxine	I
02.	Diphenoxylate	I
03.	Morphine	I
04.	Pethidine	I
05.	Dextropropoxphene	II
06.	Pholcedine	II
1.	Allobarbitone	IV
2.	Alprazolam	IV
3.	Amobarbital	IV
4.	Bromazepam	IV
5.	Buprenorpine	III
6.	Clobazam	IV
7.	Clonazepam	IV
8.	Clonazepate	IV
9.	Chlordiazepoxide	IV
10.	Diazepam	IV
11.	Estazolam	IV
12.	Fencamfamin	IV
13.	Fludiazepam	IV
14.	Kstazolam	IV
15.	Lorazepam	IV
16.	Lormetazepam	IV
17.	Medazepam	IV
18.	Meprobamate	IV
19.	Methylophenidate	IV
20.	Medazelam	IV
21.	Nimelazepam	IV
22.	Nitrazepam	IV
23.	Oxazepam	IV
24.	Pentazocaine	III
25.	Phenobarbitone	IV
26.	Phentermine	IV
27.	Pinazepam	IV
28.	Prazepam	IV
29.	Temazepam	IV
30.	Triazolam	IV

In its several meetings the Central Licensing and Registration Board discussed in detail about the adverse repercussion of the sale of these drugs without

prescription. The Board was strongly of the view that the present situation posed a great danger to public health at large as it was fraught with the dangers of self medication with potentially dangerous products and thus promoted drug resistance and quackery. The Board therefore urged the Provincial Governments to notify the appropriate provision in the drugs sale Rules for achieving the objectives. All professionals are requested to pay special attention for checking malpractices.

Specially doctors and pharmacists are urged to ensure that these groups of drugs are not dispensed without proper prescription. To facilitate the new arrangements doctors are requested to provide a duplicate copy of the prescription to the patient for such drugs, as the pharmacist or chemist will need to keep one copy for his records. If he retain the only copy, the patient may experience difficulties as the instructions to the user are also usually written on such prescriptions. If an extra copy of the prescription for such drugs cannot be provided by the doctor for any reason, the patient may be advised to get a photocopy of the prescription so that he can retain the instructions from the doctor and use the copy for presentation to the doctors on a future visit.

As such, only registered physicians are not responsible for these flaws and short comings and more simply saying these discrepancies which we have not taught or communicate to the masses.

It is the compulsory duty of the "Therapeutics Committee" to dis-allow the diffusion of quacks, and discourage unethical practice of all therapeuticians and make some essential changes for rectification in the whole system of practice.

CONCLUSION

1. Therapeutic committee should comprise of Doctors - Pharmacists - Nurses and allied professionals.
2. Rational Drug Therapy will be the function of the Committee and its impact will be on *safety*, efficacy and economics.
3. Non existence of such a committee generates a
 - a) Lack of communications among the health professionals.
 - b) Misuse of potentially hazardous drugs - due to the lack of coordination among health individuals.
4. After the formation of this committee in Pakistan, self medication could be minimized and quackery could also be minimized and then eliminated.
5. Professional Pharmacist could contribute their services for noble cause of Pharmacy Profession.