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Study of Dispensing Practices at Pharmacy Settings in Kadapa

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Abstract:
Objectives: *According to schedule H only few drugs can be sold over the counter with out the prescription. This study is done to know whether pharmacists have awareness of schedule H.In Kadapa there are roughly 140 pharmacies,out of which approximately 40 pharmacies are attached to the clinics.The dispensing practices of these pharmacies is studied in a hope to ensure good pharmacy practices at these pharmacy settings.*
Materials And Methods: *A cross-sectional study of 60 pharmacies were included in this research.In these 60,40 pharmacies were independent while 20 pharmacies were attached to the clinics. A prevalidated questionnaire on the knowledge and dispensing practices was given to the pharmacists and the input was analysed .*
Results: *46%of the total dispensing encounters was done without prescription from doctors (p>0.05).In the pharmacies attached to the clinics the percentage of dispensions was high with prescription (72%). Antipyretics(paracetamol)was the most commonly dispensed drug without prescription.Next were analgesics, antibiotics and antiulcer drugs.Full course of antibiotics were given by 28% of pharmacists while the remaining hardly check the refill.80% of pharmacies attached to the hospital have a refrigerator with a power back up while 45% of independent pharmacies did not have a power back up . 55%of the pharmacists were aware of schedule 'H'and 40% were aware of schedule X.*
Conclusion: *This study shows that many people rely on private medicine shops as their primary source of medicine especially without prescription.This the major cause for resistence to antibiotics, silent perforations of peptic ulcers with steroids etc. .In our country there is no strict regulatory body for controlling the dispensing of drugs and most pharmacists are unaware of schedule H.To conclude we require strict legal enforcement to stop the sale of drugs with out prescription and develop good pharmacy practices.*
Keywords*: Antipyretics,Clinics,Dispension,Drugs,Pharmacy.*

I. Introduction

Dispensing refers to the process of preparing and giving medicine to a named person on the basis of prescription.Good dispensing practices ensure that an effective form of the correct medicine is delivered to the right patient,in correct dosage and quantity with clear instruction and in a package that maintain the potency of the medicine.As a step forward good pharmacy practices (GPP) guidelines for community and hospitals was drafted by the International pharmaceutical federation,which was recognized and published by the World health organization(WHO) in 1999.GPP is important part of pharmacy course ,in which the pharmacist interprets the physician requirements on the prescription and accordingly supplies for the treatment of patient[1].Various activities involved in dispensing are receiving and conforming the order ,checking the prescription and interpretation,verifying and consulting if required,removing medicines for issue and compounding and lastly issuing medicines to the client with clear instructions and counseling.The aim of GPP is to give the pharmacy a clean,organized and profession look.The Alma-Ata Declaration on Primary Health Care(1978) states that "Health is a fundamental human right and that the attainment of the highest possible level of health is a most important world wide social goal."It recognized the role played by all health care workers including pharmacists as service provided by them is also a vital component of primary health care.Good dispensing medicines is an important component of rational medicine therapy in order to maximize the benefits and minimize the risks to help the patients[2].It is therefore of utmost importance to prepare this research paper that would aid individuals involved in dispensing and improve the quality of pharmaceutical service.

Traditionally pharmacy professionals primary responsibility has been stocking,distributing and maintaining quality of medicines dispensed.Now a days this role has emphasized more on advising the prescribers and other health professionals about medicine therapy,counseling patients about medicines and monitoring medicine use[3].Pharmacy professionals bridge the gap between the prescribers and patient and serve as gate keepere of medicine supply system.

The dispensing of prescription only medicines at partial doses and without prescription ,poor labelling of the dispensed items ,lack of patient counseling,incomplete compiling and recording of prescriptions and

charging patients unreasonably high prices for the dispensed medicines are some of the practices that reflect an irrational dispensing[4].Maintainining a clean environment in a pharmacy requires a regular routine of cleaning shelves,daily cleaning of floors,working surfaces and daily removal of waste.A regular schedule should be in place for checking ,cleaning and defrosting the refrigerator.Spills should be wiped of immediately especially as the liquid spilled is sticky,sweet and attractive to insects and flies.Food and drink must be kept out of the dispensing area and the refrigerator used strictly for medicines.Regular monitoring of the refrigerator temperature should be an established procedure ,together with promptly repairing the refrigerator if the temperature falls outside the acceptable units(uaually +2 to-8c).Dispensing equipment is used for measuring liquids,weighing solids or counting tablets or capsules.Cleaning this equipment used for handling different products both between uses and at the end of the day is essential[5].This article studies the dispensing practices at pharmacies located both in the clinic attached and independent pharmacies in Kadapa.

II. Materials And Methods

A cross sectional study was conducted for 3 months ie from October to December ,2016 at 60 pharmacies in Kadapa.Out of these 40 were independent pharmacies and 20 were attached to clinics.A questionnaire was prepared based on GPP guidelines and previous studies.It was pretested on 20 pharmacies and cronbach's alpha 0.75 was obtained.The questionnaire had 2 sections,14 questions based on practice and 4 questions based on the knowledge of pharmacists.[6]The questions are illustrated in the section "Discussion".Informed consent was taken from the pharmacists included in the study.Unbiased response and confidentiality was ensured. Statistical analysis:From the prevalidated semi-structered questionnaire data was collected.This data was expressed as percentages and proportions .Chi-square was applied where ever possible and p value was calculated .$p<0.05$ was considered statiscally significant.

III. Results

Data on Dispensing Practises Dispensing without prescription at pharmacies was 46% of the total dispensing encounters(Table-1).Out of these those occuring in independent pharmacies was 66%,while at pharmacies attached to the clinics it was about 28% which was stastically significant ($p>0.05$).Antipyretics (paracetamol) was the most commonly dispensed drug without prescription (62%), analgesics(60%), antihistaminics (40%), antibiotics (32%).About 25% of pharmacists checked for all the particulars like details of patient,date of prescription ,name of the drug ,dosage schedule,signature and register number of doctor in the prescription before dispensing the drug.95% maintained an inventory and 80% of pharmacies were computerized.[7] Data on Medical counseling The counseling by pharmacists to the patients could be voluntarily,on patient request or no advise. On voluntary base advise on dose frequency was 30%,on storage and instructions was 30%,on precautions and special instructions was 20% and on adverse effects was 10%.Advise on patient request regarding dose frequency was 60%,storage instructions was 45%,precautions and special instructions was 35% and adverse effects was 5%.

Data on Storage practices About 72% of the pharmacies had an refrigerator,of these percentage in independent pharmacies was 45%,while in clinic attached pharmacies was 80%.Pharmacies with power back up were 60%,of these those in independent pharmacies was 45% and those in clinic attached pharmacies was 80%.

Data on Knowledge of schedules 55% of pharmacists were aware of schedule H,of these the awareness was 54% in independent pharmacies and in those attached to the clinic was 72%.Percentage of pharmacists knowing about schedule X was 40%,of these in independent pharmacies was about 25% and those in clinic attached pharmacies was 35%.The majority of them were not aware of generic substitution(76%) and LASA(look alike and sound alike drugs,85%)

Table:1

	Dispensing encounters with prescription	Dispensing encounters without prescription	Total Dispensing Encounters
Independent pharmacies	102	200	302
Clinic attached pharmacies	236	88	324
Total	338	288	626

Table:2

Dispensing practices at pharmacies in Kadapa(n=60)

	YES	NO
Dispensing encounters without prescription	60%	40%
Do you dispense on older prescription	75%	25%
Do you insist on dispensing full course of	28%	72%

antibiotics prescribed		
Do you dispense an alternative brand in case of nonavailability of prescription brand	60%	40%
Do you check for all particulars in the prescription before dispensing	20%	80%
Do you check expiry date before dispensing	100%	0%
Do you maintain an inventory	98%	2%
Do you dispense herbal medicine also	60%	40%

Table:3

Knowledge of pharmacists in Kadapa(n=60)

	Aware	Not aware
Schedule H	55%	45%
Checking records and copy of prescription before dispensing Schedule X	40%	60%
Look alike sound alike drugs	15%	75%
Generic substitution	40%	60%

Figure:1

Percentage of drugs dispensed without prescription

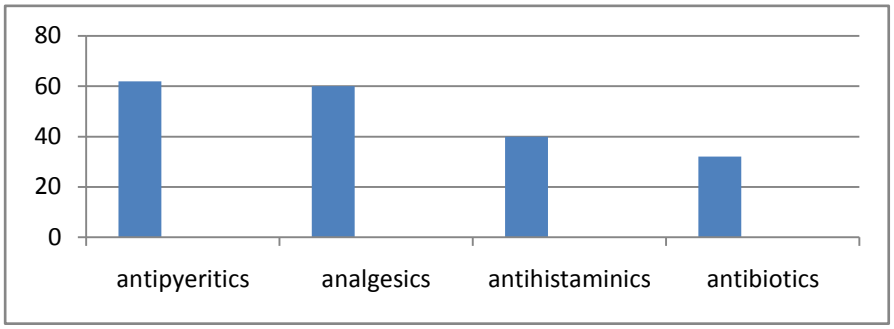
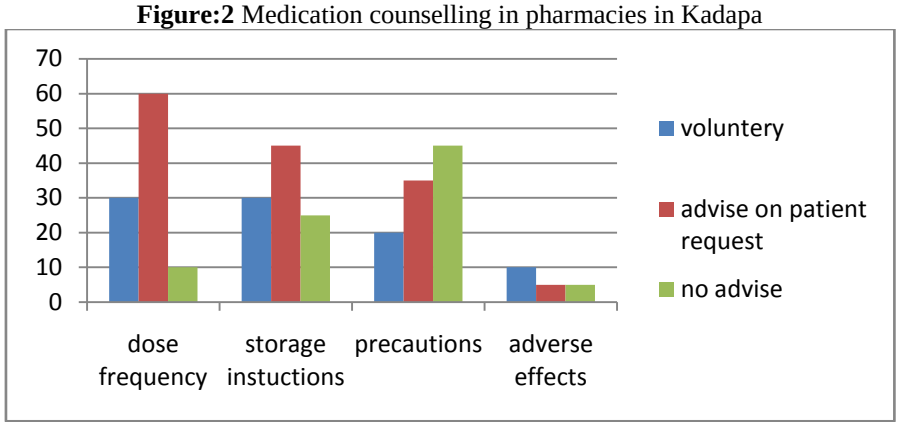


Figure:2 Medication counselling in pharmacies in Kadapa



IV. Discussion

A pharmacist has become focal point in dispension of medicine in the health care world.An ideal pharmacist must follow the given below frame work of activites. Thery are : 1)Receive and validate the prescription 2)Understand and interpret the prescription 3) Prepare and label items for issue 4)Make a final check 5)Record the action taken 6)Issue medicine to the patient with clear instructions and advise[8].

The prominent finding in this research article is high proportion of dispensing encounters without prescription (46%).This finding is high in independent pharmacies(66%).This result is not statistiscally significant (p>0.05).This dispensing pattern is similar to another study conducted in Bangalore(45%),in Tamilnadu (58%)[9],in Egypt(72%),in Tanzania(77%),Vietnam(99%) were the dispension was done with out prescription as stated above.[TABLE:1] Antipyretics (paracetamol)was the most commonly dispensed drug without prescription .Next were analgesics ,antihistaminics,antibiotics and antiulcer drugs.Similar pattern were also seen in Egypt and Tanzania.In a study done in Veitnam and another done in India ,antibiotics,vitamins and nutrition supplements were most commonly dispensed .In study done in Bangalore analgesics were most

commonly dispensed drug.In another study done in Saudi Arabia almost all pharmacies dispensed antibiotics without prescription.Though analgesics like aspirin ,diclofenac can be obtained without prescription the incidence of peptic ulcer can be increased .With improper usage of antibiotics resistence to microorganisms can develop.Antiulcer drugs interfere with absorption of other drugs which can cause drug interactions in polypharmacy prescriptions[10].In advert usage of steroids silent perforation of gastric ulcers can occur.[FIGURE:1]

The prevalidated semistructured was assessed through Cronbach's alpha which was about 0.75. Cronbach's alpha is used as a estimate of the reliability of a pschycometric test.It has been proposed that alpha can be viewed as the expected correlation of two tests that measure the same construct.75% of pharmacists dispense on older prescription,28% pharmacists insist on dispensing full course of antibiotics prescribed.Dispension of alternative brand in case of nonavailability of prescription is 60%.Maintanence of inventory is done by 98% of pharmacists.According to the GPP guidelines pharmacies should preferably be equipped with computers for inventory meangement[11].60% pharmacists dispense herbel medicine also.This practice is also enforced by irrational claims and aggressive promotions by manufactures and media,peer review and lack of well documented unbiased studies on herbal drug use in disease conditions.A study conducted in Lagos,Nigeria showed that community pharmacists frequently supplied herbal medicines.In a study done in Bangalore 57% of pharmacies dispensed herbal medicine[12].In UK ,Human medicines regulation 2012 allows only long established and quality controlled herbal medicines to be sold.Such law governing the sale of herbal medicines are lacking in our country.[TABLE:2]

Awareness of schedule H was about 55% in pharmacists and about 44% pharmacists were aware of Schedule X.Schedule H comes under preview of narcotics drugs and psychotropic substances act,1985 and these drugs bear a label saying "Warning ,to be sold by retail on the prescription of a registered medical practioner only".Schedule X is a class of prescription of drugs in India appearing as an appendix to drugs and cosmetics rules introduced in 1945[13].These are drugs which cannot be purchased over the counters without the prescription of a qualified doctor.Also the retailer has to preserve the prescription for a period of 2 years.Mutual substitution of medicine according to generic name is done by 60% of pharmacists.In a study done in Bangalore it is about 56%,legally in our country there can be no substitution without the physicians consent.Indian pharmaceutical industry is now the third largest in the world with more than 20000 registered units[13].This growth has led to the introduction of various drugs with catchy brand name.This had to origin of LASA drugs[14].Pharmacists should be cautious while prescribing these LASA drugs.For example seranase and seradase sound alike,but serdase is serrtiopeptidase and seranase is haloperidol.[TABLE:3].Medication counseling is depicted in Figure:2.

V. Conclusion

A safe,clean and organized working environment provides a basis of good pharmacy practice.Dispensing must be performed accurately and should be done in an orderly manner.Dispensing environment must have proper staff ,physical surroundings,shelving and storage areas and appropriate equipment and packaging materials[15].

This research article shows that most of the dispensing practices at pharmacies in Kadapa are improper.Most of the drugs are dispensed without prescription.The consequence of this is development of side effects especially resistence to antimicrobials ,peptic ulcer and drug interactions.Awareness of about Schedule H and Schedule X is comparatively less in pharmacists.This demands structured educational campaigns and strict enforcement of legal regulations for good pharmacy practices.

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