

Systematic review of prescription writing revisited

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Abstract

Prescription - An order for medication, therapy, or therapeutic device given by a properly authorized person, Prescription traditionally is composed of four parts - Superscription, Inscription, Subscription and Signa. Medical prescription is an important document of medico legal value too. WHO has laid certain guidelines for writing a good prescription. When followed completely this will not only help in making the remedy safe and complete but will also protect the doctors from the legal consequences of a irrational prescription. A prescription should include the following things -Name, address, telephone No. of prescriber, Date, Generic name of the drug, strength, Dosage form, total amount of drug, Label: instructions, warnings, Name, address and age of patient, Signature or initials of prescriber. Each and every point mentioned above has its own importance. When followed completely this will not only help in making the remedy safe and complete but will also protect the doctors from the legal consequences of a irrational prescription. In addition to these essential and generic drugs should be preferred, polypharmacy should be avoided and drugs by parenteral route should be used only when it is absolutely necessary. Large number of prescriptions does not confirm to ideal pattern or standards of prescribing, some studies have shown even 100% prescription errors. To increase the adherence to rational prescribing, intervention strategies should be designed to educate the healthcare workers, for benefit of patients and safety of health workers, in safe and cooperative working environment.

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INTRODUCTION

Prescription - An order for medication, therapy or therapeutic device given by a properly authorized person, which ultimately goes to a properly authorized to dispense or perform the order¹. Prescription is an art that when performed correctly will deliver the patient with all the goodies to relief him /her from ailments for which patient had appointment. Early medicines were made up of multiple ingredients requiring complex preparation. Latin was adopted as a standard language of the prescription to ensure understanding between the

physician and pharmacist and consistency in pharmaceutical composition.² Now Latin language is rarely used in prescriptions except for few abbreviations. Predating modern legal definition of prescription, prescription traditionally is composed of four parts - Superscription, Inscription, Subscription and Signa.² Superscription contains date, name, address, weight and age of patient and Rx .Rx symbol is a Latin word meaning “to take” ,Inscription this is the body of prescription which contains name, amount /strength of drug to be dispensed, Subscription is the instruction to the pharmacist “like to make a solution ” or dispense 30 tablets etc and Signa is instruction to patient on how to take the prescription. Modern prescriptions are actually “extemporaneous” where by prescriptions are composed, performed, or uttered on the spur of the moment.³ Medical prescription is a important document of medico legal value too, that can be kept as evidence in medico legal cases in court of law and thus should be carefully and seriously considered. Prescription is governed in India by following acts, The Indian Medical Council Act, 1956. The Indian Medical Council (Professional Conduct, Etiquette and Ethics), Regulations, 2002. The Drugs and

Cosmetics Act, 1940 and Rules 1945. The Pharmacy Act, 1948. And The Narcotic Drugs and Psychotropic Substances Act, 1985 and Rules 1987. WHO has laid certain guidelines for writing a good prescription⁴

A prescription should include

*Name, address, telephone No. of prescriber

*Date

*Generic name of the drug, strength

*Dosage form, total amount

*Label: instructions, warnings

*Name, address, age of patient

*Signature or initials of prescriber

Each and every point mentioned above has its own importance. When followed completely this will not only help in making the remedy safe and complete but will also protect the doctors from the legal consequences of a irrational prescription in today's world, where doctors are governed by consumer protection act too. Only registered medical practitioners who are registered with the respective state medical /dental or veterinary council are authorized to prescribe allopathic medicine in India. Whenever a doctor writes prescription it should be with neat and legible handwriting, Prescriptions, when handwritten, are notorious for often being illegible. In the US, medical practitioners' sloppy handwriting kills more than 7,000 people annually, [neutrality is disputed] according to a July 2006 report from the National Academies of Science's Institute of Medicine (IOM).⁵

A doctor had written a prescription for Amoxil tablets (amoxicillin). The pharmacist misread this and dispensed Daonil (glibenclamide) instead, patient was not a diabetic and suffered permanent brain damage as a result of taking the drug.⁴ Some jurisdiction have advocated the elimination of handwritten prescriptions altogether⁶ and computer printed prescriptions are becoming increasingly common in some places. There are proposals to securely transmit the prescription from the prescriber to the pharmacist using smartcard or the internet.⁷ In the United Kingdom a project called the Electronic Transfer of Prescriptions (ETP) within the National Programme for IT (NPfIT) is currently piloting such a scheme between prescribers and pharmacies.⁵ During writing of prescription he should concentrate on prescribing because distraction accounts for large number of errors To dedicate attention to the prescribing moment, temporarily delay the patients additional comments via verbal or non verbal clues. For example say “let me complete your prescription, and then I will answer your question “or

once we finish this , we will go over it ,”or simply hold up a single finger as a delaying signal.⁸ Name of prescriber -Prescription should contain doctors full name on the letter head. This helps to authenticate the prescription, if name of doctor is missing; the pharmacist is not liable to dispense the prescribed drug. Prescribers address and phone number - This helps the pharmacist or the patient or patient's relatives to contact in emergency, or to clarify any doubt over the prescription. Pharmacist can substitute another drug if necessary by discussing with doctor. Date - it helps the pharmacist to know the validity of prescription and to avoid unnecessary refilling of the prescription. This checks self medication to a very large extent Generic name of drug- pharmacist has difficulties in dispensing the drugs by brand name as there are more than 100 brands or trade names available for each single drug prescribed. Abbreviation should also be not used because it may confuse the pharmacist and a wrong drug may get dispensed for e.g. CPZ pharmacist may get confused with Carbamazepine or Chlorpromazine .Chances of errors during dispensing may increase. Prescribing medicines by generic name avoid the confusion and makes therapy rational and cheaper. Moreover in the teaching institutions world over, in textbooks, in scientific journals and in the research publications, medicines are always mentioned by generic names.⁹

Encouraging prescriptions by generic names is always recommended by various national and international bodies to promote rational use of drugs.¹⁰ The drugs if prescribed by generic name also give the advantage to the pharmacist to dispense the cheaper drugs to the patients, this helps to reduce the economic burden on patients. Also this practice will certainly help to check the luring practices if offered by some of the pharmaceutical companies to the practioners for promoting their costlier brands. But implementation of this practice of prescribing by generic names is not always satisfactory and requires motivation of prescribers and strong regulatory interventions.¹⁰ Strength of drug: Many drugs are available in varying strength and if it is not written then it will be problem for pharmacist to dispense correct strength of the drug. Many pharmacists in such case dispense the lowest potency drug to the patient that is again an erroneous practice. Patient further may escalate the condition by pressurizing the pharmacist to give least potent dose or high potent dose, thus complementarily increasing the irrationality of prescription. So strength of drug should be clearly mentioned on prescription.

Dosage form: If not mentioned the pharmacist is in dilemma as many drugs are available in different dosage form for example Diclofec Sodium is available in different dosage forms as tablet SR capsule or injection.

A dosage form suitable for one patient may not be suitable for other patients for example syrup more effective in children than tablets. Total amount of drug- the patient and the pharmacist should not be left with any ambiguity as to the quantity to be dispensed if only once, doctor should clearly write that “should not be refilled ”or “should not be dispensed more than once” at the bottom of prescription. If doctor wants the prescription to be refilled he should clearly write the number of times the prescription should be refilled .This deters the patient from repurchasing the same medication again and again and also helps the pharmacist in convincing the patient not to use drug unless instructed by doctor. This is particularly important for drugs having high abuse liability. Label: Instruction and Warning. Patient should be instructed by writing on prescription, as lots of times patient may not remember oral instruction. This will also help the pharmacist to explain how many times a day and how and when the patient is suppose to take the drug, for example diazepam is more effective when taken at bed time while Prednisolone is more effective when taken early in the morning. Warning should be clearly mentioned on the label. For example, for Quinolone “not get exposed to direct sunlight”. Instruction and warning increase the efficacy and safety of drug. Label should be written in simple and clear legible writing. Name of patient: This is for proper identification of the patient. Patient’s full name should always be written. Prescription is for individual, there may two patients at the pharmacy

with same first name or the last name whose prescription may get exchanged this can be prevented by strictly adhering to writing patients name including surname. Patients Age: Drugs doses differ on the basis of age and body weight Patients age on prescription acts as a safety measure against dosage error. Certain drugs are contraindicated in children like Tetracycline, Quinolone etc, if prescribed by mistake, in such a case the pharmacist can consult the doctor and rectify the mistake by discussing with the doctor. Patients Address: It is essential especially for follow- up of patients. Example DOT provider's. In case of patients diagnosed with tuberculosis where, the public health worker visits the house of the patient (definitely within a week) and has a detailed dialogue with the patient and other members of the family, emphasizing the treatment schedule, importance of regular uninterrupted drug intake, completion of the course of treatment, possible intolerance, etc. as well as the need for check-up of contacts.¹¹ It also helps to trace the patient so as to rectify fault in case of prescribing or dispensing error. Signature of doctor: This is necessary for authenticating the prescription and should be ideally signed by blue indelible ink. Signature will also prevent the misuse of blank prescriptions especially by drug addicts. Without doctor’s signature on the prescription, the pharmacist has full right to dishonor the prescription and legally bound to do so.

Ideal paper size for prescription is A5 14X 21cm

Doctors full name			
Doctors address		Telephone No.	Reg.No- Date -
Patient Name			
Patient address			
Patient age			
Rx			
Dosage form ,	Generic name of drug,	Strength,	Total amount
e.g. (Tab).	(Paracetamol)	(500mg)	(9 tablets)
Instructions- To be taken three times a day after meals for three days			
Doctors signature			

Figure 1: An ideal prescription

In addition to above guideline laid by WHO while writing prescription doctor should avoid overwriting on a

prescription, in case of correction the doctor should initial with each correction. Letter heads /blank prescription

should be kept in a secure place to avoid misuse. Doctors themselves should write the prescription and sign it and should not allow nurses or assistants working under them to write prescription and then take signature. Polypharmacy that is concurrent use of multiple drugs by patient should be avoided. Polypharmacy increases the cost of therapy unless the prescribed drugs are genuinely necessary. Also it decreases compliance of the patient so the drugs should be used judiciously. The risk of drug interaction increases from approximately 6% in patients approximately taking two medication to 50% in those taking five medication to 100% in those taking 10 medication.¹² Polypharmacy increase the incidence of adverse effects specially in older patients. Parenteral route (injection) should be used only when it is a must, otherwise it may become a vehicle for transmission of blood borne disease like Hepatitis B and C, HIV, Malaria etc. Also skilled person is required for such a route of administration of drug. Incidence of acute adverse drug reactions are more compared to oral route. It also increases the cost of therapy. Essential drugs should be preferred during prescribing. Prescription from the Essential drug list gives maximum benefit from limited resource, promotes rational use of drugs, assists the development of standard use of standard treatment protocol and rational prescribing policies and also increases economic advantages like lowering the cost of therapy. Antibiotics should be judiciously used and when used, correct regimen should be followed. Injudicious use of antibiotic leads to development of antibiotic resistance. Based on studies of resistant infections, findings show that resistance level has been high.¹³ Irrational use of antibiotics can lead to emergence of antimicrobial resistant diseases, for example the recent emergence of Multi Drug Resistance Tuberculosis. WHO also has been trying to control the emergence of resistance to antibiotics and also spread the message for rational use of antibiotics. For this WHO on world health day i.e. April 7th, 2011 said “No action today, no cure tomorrow.”¹⁴ Most of the mistakes in prescription are preventable. Irrational prescribing is becoming more common. Large number of prescriptions does not confirm to ideal pattern or standards of prescribing, some studies has shown even 100% prescription errors.^{15,16} To increase the adherence to rational prescribing, intervention strategies should be designed to educate the healthcare workers for benefit of patients and safety of health workers in safe and cooperative working environment. Recently “Model Medicine Prescription Format” has been designed and is now being circulated to all the stake holders as a legal mandatory prescription format in Maharashtra by Maharashtra medical council as there is need for uniform prescription format commensurate with legal provisions.

More over emphasis needs to be laid on teaching the art of writing a prescription to undergraduates and post graduates students. A weeks posting in clinical pharmacology and therapeutics if possible should be taught over internship and this period should be utilized in teaching prescription writing and rational drug therapy. Interventions aimed at improving knowledge and training, and reducing complexity and the introduction of strict feedback control and monitoring systems are highly advisable¹⁶. However, large-scale information on the beneficial effects of interventions aimed at reducing harm from prescribing faults and prescription errors is not yet available and is needed.¹⁷ It can be concluded that a serious health hazard can be minimized by educating the erring doctors for a more rational use of drugs.¹⁸ In a nutshell, that there is no such thing as safe drug and prescribing has the potential to cause harm or death as well as good.¹⁹

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