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EVALUATION OF DENTAL PRESCRIPTIONS IN VARIOUS DENTAL HOSPITALS/CLINICS OF PUNJAB, PAKISTAN.

[1]Sidra Irshad Khan*, [2]Asma Imam, [3]Dr. Saleha Sadeeqa

[1][2][3]Institute of Pharmacy, Lahore College for Women University, Lahore, Pakistan.
[1]Pharm-D 5th Professional LCWU.
[2]Pharm-D 5th Professional LCWU.
[3]Assistant Professor, Dept. of Pharmacy Practice, LCWU.

*Corresponding Author: Sidra Irshad Khan

Pharm-D Lahore College for Women University.

ABSTRACT

Objective: the aim of the study was evaluate the prescription and medication errors in dental prescriptions prescribed in various dental clinics/hospitals of Punjab, Pakistan. **Material & methods:** 150 pre-designed prescription evaluation forms were filled by evaluating 150 prescriptions from various non-government and government settings. Prescriptions were selected in convenient way. Prescriptions were evaluated and analyzed using Microsoft office excel and word. Errors were calculated in % ages and results were displayed in graphs. **Results:** Prevention of errors at the prescribing part is one of the important steps towards reducing medication errors. As per prescription part errors findings, only 68% prescriptions contained dentist's full name and address. 64% Rx contained complete qualification of dentists where as only 44% were having dentist's registration no. On the part of medication errors, while 84% contained full name of medications. 76% Rx contained strength/potency. 16% of prescriptions contained polypharmacy and 12% have drug interactions in the prescribed medications. The errors on parts of patient information includes, 92% Rx's contained full name of patients, 40% contained patients full address where only 52% contained patients age in them. **Conclusion:** Errors were found on every part of prescription, only a few(less than 1%) complies with 100% of legal general guidelines. Where many contained a few errors and many were incomplete also. Most of the government setup prescriptions were incomplete in prescription errors while private setup were incomplete in patient information where as errors related In medication part were equal in prescriptions of both settings.

KEYWORDS: dental prescription errors, dental prescription evaluation.

INTRODUCTION

Prescribing is the act of indicating one or more drugs to be administered to or taken by the patient, its dosage, and the duration of the treatment. It is a dynamic and individualized clinical process. Prescription has special characteristics.[1][2]

A medication error, defined as a failure in the treatment process that leads to, or has potential that may lead to, or harm the patient. It can occur at any step of the medication use process starting from choosing a medicine (irrational, inappropriate, and ineffective prescribing, under-prescribing and over-prescribing); writing the prescription (prescription errors, including illegibility); manufacturing the formulation to be used (wrong strength, contaminants or adulterants, wrong or misleading packaging); dispensing the formulation (wrong drug, wrong formulation, wrong label); administering or taking the drug (wrong dose, wrong route, wrong frequency, wrong duration); monitoring

therapy (failing to alter therapy when required, erroneous alteration).[3][4]

Clinically, prescribing error occurs when there is an unintentional significant reduction in the probability of treatment being timely and effective or increase in the risk of harm when compared with generally accepted practice. This definition is clearly states the outcome of the error.[5]

Prescribing errors (errors in decision making and errors in prescription writing) and administering errors are two most frequent types of medication errors. Prevention of medication errors has been recognized as a priority in health care systems worldwide. Prevention of errors at the prescribing part is one of the important steps towards reducing medication errors.[6][7]

Prescription errors are basically events that arise from slips, lapses, or mistakes e.g., writing a dose that is sub therapeutic or more than required dose because of

erroneous calculation, or incorrect prescription due to similarities in drug brand names or proprietary names.[8]

Prescribing problems have been classified as errors of omission and errors of commission, which require reactive and proactive interventions, respectively, by pharmacists to rectify them (Rupp 1991).[9]

All procedures related to prescribing are error-generating steps. A prescribing fault can arise from the choice of the wrong drug, the wrong dose, the wrong route of administration, and the wrong frequency or duration of treatment, but also from inappropriate or erroneous prescribing in relation to the characteristics of the individual patient or co-existing treatments; it may also depend on inadequate evaluation of potential harm deriving from a given treatment. Errors in dose selection occur most commonly of all prescribing faults.[10]

Inaccuracy in writing and poor legibility of handwriting, the use of abbreviations or incomplete writing of a prescription, can lead to misinterpretation by healthcare personnel. This can result in errors in drug dispensing and administration.[11]

Polypharmacy and management of elderly patients or children are associated with inappropriate or potentially inappropriate prescribing and errors.[12] [13]

Monitoring of drug action is necessarily part of the prescribing process, to allow optimization or adjustments of doses or treatments. In ambulatory care, prescribing faults are mostly related to the use of inappropriate doses and inadequate monitoring.[14]

As per Dental guidelines generally followed basic legal requirements of a prescription includes that prescription should be written in ink / be indelible (including computer-generated prescriptions), prescription should be signed and dated by the prescriber, clearly indicate name, address and qualification of prescriber, including dental council number, specify full name and address of patient, and if patient <12 years old, specify age or date of birth, writing should be legible.[15]

Good practice points involves prescribe using the generic drug name, even if the drug is not available in the generic form, do not use abbreviations, state name of drug, dose, route and duration of treatment, draw a diagonal line across the blank part of the form under the prescription to prevent fraudulent alterations or additions being made, alterations are best avoided but if any are made they should be clear, unambiguous and endorsed with the prescriber's signature.[16]

MATERIAL AND METHODS
Data has been collected by prescription evaluation form, comprises of three portions. Part 1 is errors related to prescription, part 2 is errors related to medications, part3 is errors related to patient's information. 150 pre-designed prescription evaluation forms were filled by evaluating 150 prescriptions from various non-government and government clinics/hospitals. Prescriptions were selected in convenient way in duration of almost two months. Evaluation form contains the guidelines to determine the errors of prescriptions related to dentist information on prescription, medication related errors and patient information related errors. Data was analyzed using descriptive statistics and results are shown in various forms of graphs to show the results.

RESULTS
In the study it was observed statistically that on account of the errors related to dentist's prescription information, all prescriptions were written in indelible ink. 68% prescriptions contained dentist's full name and address. 64% Rx contained complete qualification of dentists where as only 44% were having dentist's registration no. diagnosis (c/c) was mentioned on 76% prescription.
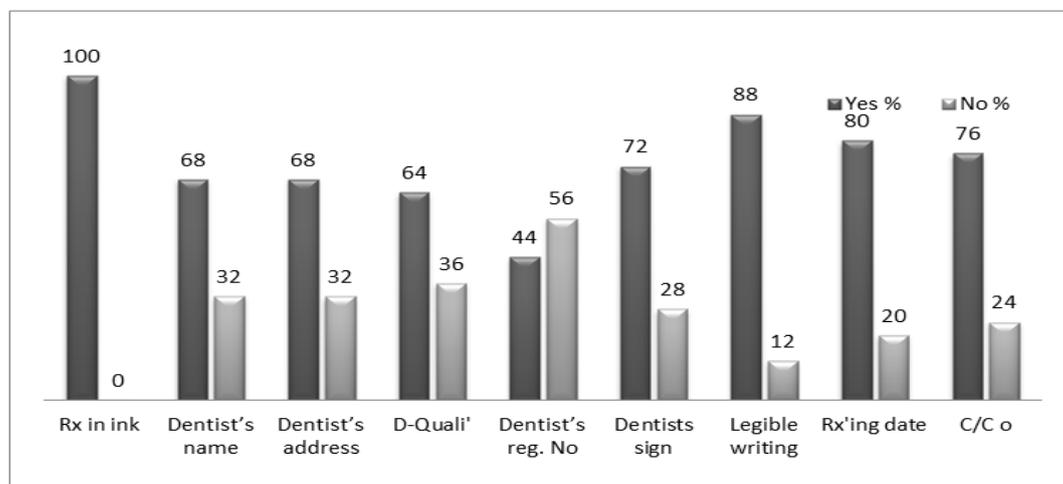

Figure 1: Related to Prescription

On the part of medication errors, only 8% were prescribed by generic names, while 84% contained full name of medications. 76% Rx contained strength/potency and whole of 92% selected Rx's were having dosage forms mentioned on them. 52% prescriptions were having refill instructions. 16% of prescriptions contained polypharmacy and 12% have drug interactions in the prescribed medications.
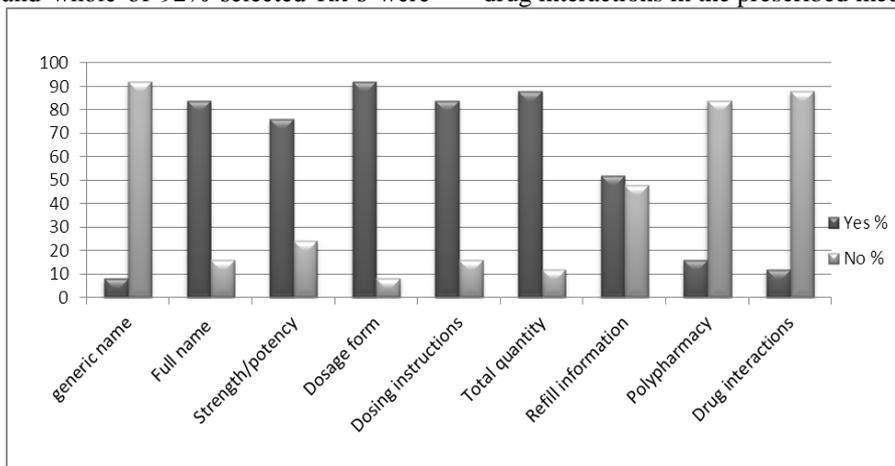

Figure 2: Related to medication

The errors on parts of patient information includes, 92% Rx's contained full name of patients, 40% contained patients full address where only 52% contained patients age in them.
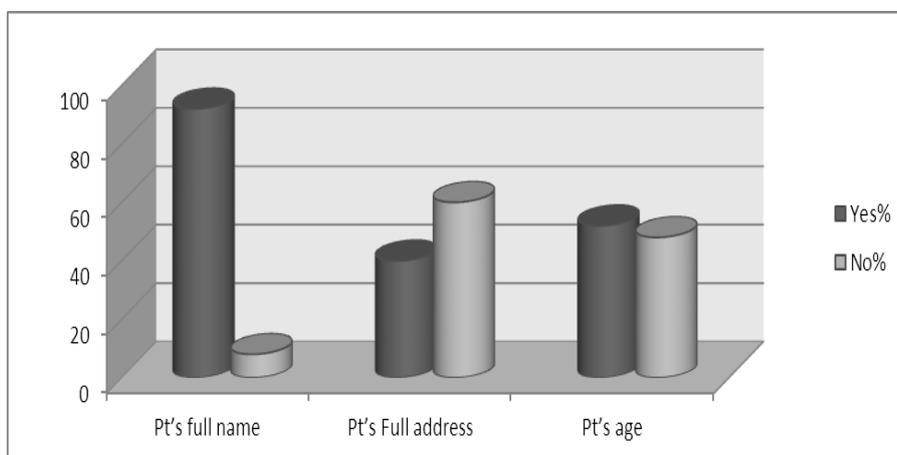

Figure 3: Related to patient.

DISCUSSION

Prescribing errors and administering errors are two most frequent types of medication errors. Prevention of medication errors has been recognized as a priority in health care systems worldwide. Prevention of errors at the prescribing part is one of the important steps towards reducing medication errors. It is important first to evaluate and find the errors to eradicate them.

As per study findings most common errors in prescription part errors were the missing data regarding full name, address and qualification of the dentist, which is an integral part of any proper prescription. Majority of the dentist's haven't mentioned their registration no. which is considered as the identification no of dentists or any health care professional. Though majority of the prescriptions were written in legible writing where as some was having error of unreadable writing. Many of the prescriptions also do not contained chief complain or diagnosis which should be present on prescription. All the prescriptions were written in indelible ink.

On the part of errors in medication, the major error caught was that almost all the prescriptions were written in proprietary names of medicines, whereas it is good practice to write prescriptions in generic names. Some prescriptions were not having full names of the medicines; it is also a good approach to write the at least full name of medicine even if generic is not prescribed. Majority of the prescriptions were having dosage form, potency/strength and dosing instructions whereas many were lacking in them. Some of the prescriptions were having polypharmacy, drug interactions in them while majority were written carefully. Many prescriptions did not contain refill information and total quantity of the medicines.

In prescriptions, it is one of the important parts to write the patient information on it. Majority of the evaluated prescriptions were having full names whiles names were missing on some of them. While many were incomplete as they do not contained any address or age of patients.

CONCLUSION

As a whole almost errors were found on every part of them, only a few comply with 100% of legal general guidelines. Where many contained a few errors and many were incomplete also. Most of the government setup prescriptions were incomplete in prescription errors while private setup were incomplete in patient information where as errors related In medication part were equal in prescriptions of both settings.

There is need to focus on the basics of prescription writing to eradicate the errors, especially in the government setup. A much effort is needed on writing refill information and dosing pattern of the medicines and information's regarding how to take the medicines.

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