

PATTERNS OF PRESCRIPTION WRITING IN PSYCHIATRIC CLINICS

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ABSTRACT

Objectives: To screen the prescription-writing pattern of psychiatrists in private clinics in Peshawar for the essential elements of prescriptions and to investigate the prescribing trends at Peshawar.

Methodology: This observational study was carried out at LRH Peshawar on 602 prescriptions in 5 months duration. The prescriptions were collected from the patients admitted to LRH and the variables were checked and noted directly into electronic form.

Results: Averagely 3.34 drugs were prescribed per prescription, in which drug-related variables: (i) strength of medication was indicated for all drugs in 409 (67.94%) of the prescriptions and were missing for some drugs in 177 (29.4%) prescriptions, (ii) total quantity of a drug to be dispensed was indicated for any drug in just over 111(18.43%) of prescriptions, (iii) The instructions for taking the medication were complete in only 301 (50%) of prescriptions. Fluoxetine alone or in combination (8.4%) was the most commonly prescribed antidepressant. There were 319 (15.8%) non-steroidal anti-inflammatory drugs (NSAIDs) and/or analgesics. Vitamin preparations accounted for 4.02% of all drugs dispensed.

Conclusion: SSRI's were the most frequently prescribed medication in majority of prescriptions. Inconsistency regarding different prescription components was observed, such as strength of medication, frequency or instruction for medication use etc.

Key Words: Prescription screening, Medication errors, Pharmacopsychiatry, Clinical pharmacy

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INTRODUCTION

When a psychiatric patient is diagnosed, the practitioner selects a medication therapy from a variety of therapeutic approaches and according to the severity and condition of a patient. This requires the writing of a prescription. Prescribing accounts for

a large proportion of errors¹: Medication errors, problems related to strength and frequency of medication, quantity per dose, instructions for use, total quantity to be dispensed, dosage form etc; if absent, can cause great deal of patients' harm. Medicines are a key component of healthcare and errors relating to medication, may impact on patient's safety¹⁻⁴.

Human errors can be understood through a lot of suggested models and frameworks but the findings vary from country to country^{5,6}. Prescribing errors are harmful to the patients and in worst cases they may lead to fatality. To avoid errors in prescriptions and its amelioration, the easiest way of prevention of prescription errors is at the time of writing prescription⁶⁻¹⁰.

Theories of human error states that, "a series of planned actions may fail to achieve their desired outcome because the plan itself was inadequate or because the actions did not go as planned. The definition reflects this distinction, including failures both in the prescribing decision and the prescription writing process"⁵. In 2005, Department of Health in

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the United Kingdom planned to reduce prescribing errors by 40%¹⁰. Such initiatives are also required in a developing country like Pakistan. Apparently, psychiatrists know little about prescribing errors. Irrational drug therapy can cause patient's harm by exacerbation or prolongation of illness, distress and higher costs⁸ in some cases. Irrational prescribing is a global problem and may also be regarded as "pathological" prescribing⁹.

All prescriptions must include the name, address, specialty and signature of the prescriber as well as the name, sex, and age of the patient and the strength, quantity, dose, frequency, dosage form and instructions for use of the medication¹¹⁻¹⁵. The dispensing system of Pakistan is different than some other countries. The medication is available in already packed in containers etc by the pharmaceutical industries, to be dispensed. There is no option of refill instructions to the pharmacist etc. Adherence by the physician to good quality prescribing will minimize errors and ultimately improve patient's care. Prescribing errors can occur as a result of haste, poor concentration to the patient or attendant account of illness (in case the patient is unable to deliver the correct information), decision-making or the prescription-writing process. Incorrect prescribing habits are common unfortunately¹⁶⁻²⁰.

The purpose of this study was to investigate drug prescriptions of Psychiatrist for the essential elements of prescriptions mentioned above, and to study the prescribing trends in psychiatric practice in Peshawar area, Pakistan.

METHODOLOGY

We collected prescriptions written by private specialists, general practitioners and physicians at private medical centres. Prescriptions were collected from 1st of April to 4th of September 2012. The patients of Psychiatry ward or from the patients who were referred from other wards to Psychiatry. Information present on the prescription was transferred directly into the electronic form. The prescriptions were carefully analysed for information about prescriber, patient and drug and dose related information using a checklist for the items listed above. Types of drugs prescribed were analysed to determine the most commonly prescribed drug classes. All data in prescriptions were entered in the form by the first 3 authors and were checked by the rest of the authors. Physicians in the area did not know about the study and the ethics committee gave approval.

RESULTS

A total of 602 prescriptions were collected from the consecutive patients of psychiatry ward in Lady reading hospital in a period of five months. All were private clinic prescriptions. Only brand names were used on the prescriptions. The majority of drugs prescribed ranged from 3 to 6 in numbers. A total of 2011 medications were included in the 602 prescriptions, with an average of 3.34 drugs per prescription (Figure 1).

The majority of the prescriptions contained the date of the prescription, address, specialty and signa-

Figure 1: Number of drugs prescribed per prescription

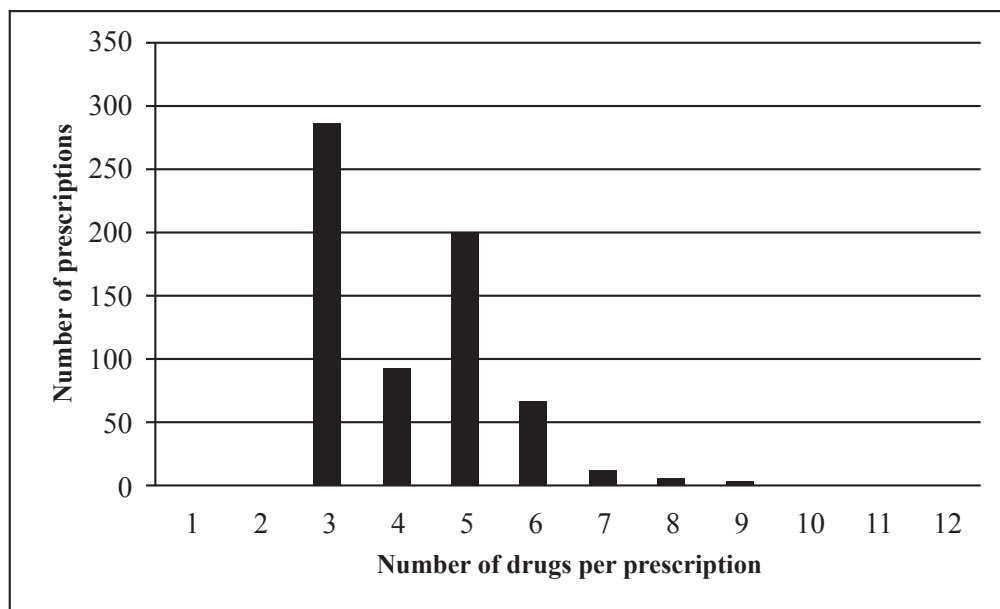


Table 1: Prescriber and patient information on prescription (n = 602)

Information present	Number	Percentage
Physician related		
Address	510	84.7
Specialization	411	68.2
Signature	333	55.3
Date	311	51.6
Licence Number	0	0
Patient related		
Name	517	85.8
Age	501	83.2
Sex	227	37.7
Address	139	23.1
Weight	13	2.1

Table 2: Variables related to drugs present on prescriptions

Variable	Included for all drugs in prescription		Included for some drugs in prescription		Not included for any drug in prescription	
	Number	%	Number	%	Number	%
Frequency	499	82.8	93	15.4	27	4.4
Quantity per dose	487	80.8	81	13.4	31	5.1
Instructions for use	301	50	79	13.1	53	8.8
Total quantity to be dispensed	111	18.4	33	5.4	0	0
Strength	409	67.9	317	52.6	177	29.4

Table 3: Prescribing frequency of various drug classes

Drug Class	Number	Percentage
Central Nervous System Drugs	1428	71*
NSAIDs/analgesics	319	15.8
Antimicrobials	125	6.2
Vitamins	81	4.1
Gastrointestinal Medicines	37	1.8
Cough syrups	12	0.5
Others	9	0.4

Table 4: Patterns of CNS drugs prescribed

Drug class	Number	Percentage
Fluoxetine	121	8.4*
Sodium valproate	113	7.9*
Alprazolam	111	7.7*
Carbamazepine	107	7.4
Escitalopram	97	6.7
Diazepam	94	6.5
Citalopram	87	6.1
Lithium	85	5.9
Olanzapine	56	3.9
Methylphenidate	9	0.6
Others	1131	56.2

ture of the prescriber and name of the patient (Table 1). Few of the prescriptions included the weight of the patient. None of the prescription contained licence number of the prescriber.

Drug-related variables were also analysed (Table 2). Strength of medication was indicated for all drugs in 409 (67.9%) of the prescriptions and not given for some drugs in 177 (29.4%) prescriptions. The total quantity of a drug to be dispensed was indicated for any drug in just over 111(18.4%) of prescriptions. The instructions for taking the medication were complete in only 301 (50%) of prescriptions (Table 2).

(Table 3) Fluoxetine alone or in combination (8.4%) was the most commonly prescribed antidepressant, followed by Valproic acid (7.9%) and Alprazolam (7.7%) of 71% of total CNS drugs.

There were 319 (15.8%) non-steroidal anti-inflammatory drugs (NSAIDs) and/or analgesics. The most common drug prescribed in this category was diclofenac sodium and acetaminophen. Vitamin preparations accounted for 4.02% of all drugs dispensed. CNS drugs were 71% of the total drugs in 602 prescriptions (Table 4).

DISCUSSION

This study was conducted to investigate the quality of prescription writing and the prescribing trends in Peshawar. The study clearly showed that there are some deficiencies in the quality of prescription writing. Few of the prescriptions contained the address of the patients and less than half included the

patients' gender. These elements should be included according to World Health Organization^{5, 19}. Other studies showed similar prescription deficiencies. A "pharmaco-epidemiological study of prescription pattern" of out-patients showed that the prescriptions were deficient in many aspects²¹. Other studies showed both the errors in in-patient and out-patient prescription²²⁻²⁵. A study conducted in Pakistan showed that the number of prescribing errors identified was 33 out of the 84 medications prescribed; thus, the percentage of errors was calculated to be 39.28%⁴².

Medication orders checked by pharmacists identify prescription errors²⁷⁻³⁰ and circulation on wards by them can reduce prescription errors³¹⁻³².

Pharmacist's reconciliation for medication therapy and therapeutic analysis proved to be useful.^{33, 34} Pharmacists intervention in health care team proved to be beneficial^{35, 36}. In another study, 4238 prescriptions evaluated, one or more errors were observed in 1857 (43.8%) prescriptions, with a total of 3011 errors observed. Of these, 1264 (41.9%) were minor, 1629 (54.1%) were significant, 109 (3.6%) were serious and 9 (0.30%) were potentially life threatening.⁴⁸

Another point to be considered is that hand-written prescription sometimes causes errors. There is a difficulty for a pharmacist to understand the hand-writing and consequently to dispense the drugs⁴⁰. US Institute of Medicine recommended e-prescribing as a standard⁴¹. A study in a public hospital in Pakistan found that prescribing errors for inpatients were 23% during hand-written prescribing and 8%

after the introduction of e-prescribing. The error rate for patients upon discharge was 17% for handwritten prescribing and 4% after introducing e-prescribing respectively.⁴²

Staff took part in training about good prescribing practice and used a pocket PC automatic dosage calculation system. Incorrect prescriptions reduced from 40% to 12% when staff used a "pocket PC automatic dosage calculation system"⁴³. Usually practitioners prefer e-prescribing now-a-days.⁴⁴⁻⁴⁵

A pharmacy faculty gave two lectures, attended hospital rounds and took part in clinics. Interns then undertook a written exam and clinical assessment. All interns showed improvement. The practitioners' education regarding prescription writing, errors and its importance can be useful, if included in curriculum.²⁶

Limitation of this study is that the collection of prescription was made only from those patients which were either admitted or referred to Psychiatry ward LRH. Despite this, there was evidence of sub-optimal prescribing practices with over-prescribing of certain drug categories, particularly antidepressants and benzodiazepines.

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CONTRIBUTORS

SS conceived the idea and wrote the manuscript of the study. MI, NRA & MA assisted in the analysis and interpretation of data and helped in the write-up of the manuscript. All the authors contributed significantly to the research that resulted in the submitted manuscript.