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PRESCRIBING ERRORS IN PSYCHIATRY DEPARTMENT: AN AUDIT FROM A HOSPITAL IN LAHORE

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# ABSTRACT

**Objective:** To explore prescribing errors occurring in psychiatry department in a public hospital.

**Design:** Prospective observational method was followed to screen, identify and classify prescribing errors in fifteen inpatient profiles in psychiatry department.

**Place & duration of study:** The study was conducted for a period of fifteen days at psychiatry department in a hospital in Lahore, Pakistan from September 1st to September 15th 2006.

**Subjects & Methods:** Prospective study of 15 inpatient cases randomly selected from psychiatry department.

**Results:** During the study 84 medications were prescribed. The mean of medications prescribed per case was 5.6. The number of prescribing errors identified was 33 and the percentage of prescribing errors was 39.28%.

**Conclusion:** All prescribing errors identified can be prevented.

**Key words:** Prescribing Error, Psychiatry, Pakistan

# INTRODUCTION

“To err is human” and medical professionals are no exception. Several frameworks and models have been suggested to understand the reasons behind hu- man errors; the findings varied in each country and set- ting1, 2. Prescribing errors can cause harm to patients and in severe cases they may become fatal. In the United States medical error in general has been placed among the top 10 death causes3. Errors occurring at the time of prescription writing are the easiest to be prevented; therefore, they are important targets for improvement1. ‘‘A clinically meaningful prescribing error occurs when, as a result of a prescribing decision or prescription writ- ing process, there is an unintentional significant (1) re- duction in the probability of treatment being timely and effective or (2) increase in the risk of harm when com- pared with generally accepted practice’’4,5. Recently there has been a growing concern about error issues in medi- cine both internationally and regionally. In 2003, the Daily News published an article on medication errors and the impact of consumer awareness6. In their editorial for the Journal of Postgraduate Medicine, India, Mehta and Gogtay addressed the prescribing errors issue and in- vited for two articles concerning the same issue7,8. In one study conducted in a teaching hospital in India, 34% of the cases studies had at least one prescribing error, the study involved 304 patients9. The Department of Health in the United Kingdom planned to reduce seri-

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ous prescribing errors by 40% in the year 200510. Unfor- tunately again, such initiatives are severely required in a developing country like Pakistan. Presently, little is know about prescribing errors made by psychiatrists. The present paper investigates the incidence of pre- scribing errors in psychiatry ward and explores the types of errors being encountered.

# SUBJECTS AND METHODS

## Prescribing Errors

Deciding on error types to be investigated wasn’t an easy task. Following a thorough literature review, it was decided to consider the following error types: “or- der to break a delivery system that shouldn’t be bro- ken”10, “polypharmacy”11, “dose”12, “major misspelling of a drug’s name”13, “regimen not that recommended by literature or manufacturer”4, “not specifying the maxi- mum dose when prescribing as s.o.s” “when needed”4, “ambiguous medication order”14, and “dosage form”15.

## Screening for Errors

Fifteen inpatient cases were randomly selected, in a prospective study design, from the Psychiatry De- partment of a hospital in Lahore. The study was con- ducted for a period of fifteen days, from September 15th 2006 to October 15th 2006. Other than the head of the department, no ward doctor was aware of the nature of the study, the objective was to keep the normal prescrib- ing routine. A digital scanner “Orite 6.6 mega pixel” was used to scan the inpatient profiles, the whole inpatient profiles were scanned, except the patient’s bio-data as restricted by the head of the department, other parts of the profile including history, diagnosis, plan, medica- tions and assessment were scanned using the near snap option to produce scans that can be viewed and en- larged using computer. Then the scans were viewed on

a computer, prescribing errors were identified and clas- Table 2

sified.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Error Type** | **No. of Errors Detected** | **Error Percent- age** |
| 1 | Order to Break a Delivery System that Shouldn’t be Broken7 | 9 | 27.27 |
| 2 | Polypharmacy Error8 | 7 | 21.21 |
| 3 | Dose Error9 | 5 | 15.15 |
| 4 | Major Misspelling of a Drug’s Name10 | 3 | 9 |
| 5 | Regimen not that Recommended by Literature or Manufacturer5 | 3 | 9 |
| 6 | Not Specifying the Maximum Dose when Prescribing as s.o.s “when needed”5 | 3 | 9 |
| 7 | Ambiguous Medication Order11 | 2 | 6 |
| 8 | Dosage Form Error12 | 1 | 3 |

Table 1

Details of Medications and Errors in Each Case

|  |  |  |
| --- | --- | --- |
| **Case No.** | **No. of Medications Prescribed** | **No. of Errors Detected** |
| 1 | 4 | 1 |
| 2 | 3 | 1 |
| 3 | 11 | 2 |
| 4 | 3 | 2 |
| 5 | 10 | 4 |
| 6 | 3 | 3 |
| 7 | 4 | 4 |
| 8 | 5 | 3 |
| 9 | 8 | 1 |
| 10 | 3 | 2 |
| 11 | 4 | 3 |
| 12 | 5 | 1 |
| 13 | 7 | 4 |
| 14 | 7 | 2 |
| 15 | 7 | 0 |
| **Total** | **84** | **33** |
| **Total Error Percentage** | | **39.28%** |

Details of Prescribing Errors Identified in Psychiatry Department

# RESULTS

The total number of medications prescribed to the fifteen inpatients during the study period was 84 medi- cations. The mean of medications prescribed per case was calculated to be 5.6. The number of prescribing errors identified was 33 out of the 84 medications pre- scribed, thus, the percentage of errors was calculated to be 39.28%. The details of each case are presented in Table 1 and the details of prescribing errors are pre- sented in Table 2.

# DISCUSSION

The results show comparatively high error per- centage regarding “Order to Break a Delivery System that shouldn’t be Broken”. Quinzler and associates con- ducted a study in Germany, their study showed com- parative results, as 24.1% of the drugs investigated were split10. Studies suggest that prescribers must be discour- aged to prescribing tablets in halves, since alternatives are commercially available. Polypharmacy persists as treatment option, in contrast with monotherapy

“monopharmacy”, for many psychiatric disorders. Our study reveals that polypharmacy was the treatment op- tion for all patients, as the least number of medications prescribed for a single case was three as shown in Table (I). Some combinations were completely irrational, since medications with identical mechanism of action were concurrently prescribed. Two patients were prescribed with ten or more medications; even the mean was com- paratively high. In a study conducted in Japan, polyp- harmacy was the norm, researchers proved significant improvements when the prescribing norm switched to monotherapy16-18. Dose error was the third highest oc- curring. Both over-treatment and under-treatment results in inadequate outcomes. Our results were comparable with those identified in a study conducted by Vrca and colleagues in which they pointed a 14.7% error percent- age in 4951 prescriptions12. Prescribers are advised to adhere to guidelines whether provided by manufactur- ers or accessed from any authentic source. “Major Mis- spelling of a Drug’s Name”, “Regimen not that recom- mended by Literature or Manufacturer”, and “Not Speci- fying the Maximum Dose when prescribing as s.o.s or “when needed” errors occurred in equal percentage. Dispensing a sound-like drug or orthography-like drug led to serious outcomes, and in some cases were fatal7,

13. Filik and associates conducted a study to evaluate the effectiveness of capital (“Tall Man”) letters approach.

The outcomes were encouraging and drug names were less confusing19. Prescribers are encouraged to spell medicines correctly and clearly. Tall Man approach also helps dispensers and junior pharmacists identify drugs easily. Regimen errors were also identified; prescribers are encouraged to follow manufacturer’s recommenda- tions for dose, frequency and duration4. It was also found that some prescribers prescribed medications as “s.o.s” (i.e. when needed) without specifying the maximum daily dose. Hence, nursing staff may administer the medica- tion several times during a day, thus, may lead to toxicity or untoward outcomes. One approach to avoid that is to clearly mention the maximum daily dose of any medica- tion prescribed as “s.o.s”. Another error existed related to handwriting and incomplete information provided in

the prescription. Ambiguous medication orders could

1. Ghaleb M, Barber N, Dean B, Franklin, Wong I. What constitutes a prescribing error in paediatrics. Qual Saf Health Care 2005; 14:352-7.
2. Medication error. [Online]2003 [Cited on 2003, August 30]. Available from URL: [http://www.dailytimes.com.pk.](http://www.dailytimes.com.pk/)
3. Mehta S, Gogtay N. From the pen to the patient: Mini- mizing medication errors. J Postgrad Med 2005; 51:3-4.
4. Pote S, Tiwari P, Dcruz S. Medication prescribing errors in a public hospital in India: A prospective study. Phar Pract 2007; 5: 17-20.
5. Paton C, Gill-Banham S. Prescribing Errors in Psychia- try. Psych Bull 2003; 27: 208-10.
6. Quinzler R, Gasse C, Schneider A, Kaufmann-Kolle P, Szecsenyi J, Haefeli W. The frequency of inappropriate tablet splitting in primary care. Eur J Clin Pharmacol 2006; 62:1065-73.
7. Gorard D. Escalating polypharmacy. QJM 2006; 99:

lead to failure to dispense the desired medication or dispensing another “wrong” medication, dose, frequency or combination14. The last error type identified was dos-

797-800.

Vesna B, Mira B, Velimir B, Mladen B. Prescribing medi- cation errors in hospitalized patients: A prospective study. Acta Pharm 2005; 55: 157–67.

age form related. Medications prescribed as tablets,

while the tablet dosage from is commercially inexistent; similarly for capsules, syrups, and injectables12.

# CONCLUSIONS

From the above results, it could be concluded that all prescribing errors occurred are preventable. More insight studies are required to investigate the causes of these errors in the psychiatry wards. Studies regarding the contribution of clinical pharmacist participation in morning rounds on the minimization of prescribing er- rors in psychiatry wards in Pakistan hospitals are cru- cially needed17,20. Interventions and prescriptions modi- fication made by pharmacist and nurse may also help minimize prescribing errors as a study indicated21,22. Many errors were related to handwriting and ambiguity in the information provided on the prescription, hence, responding to technological appeals such as electronic prescriptions, computerized physician order entry (CPOE), software assisted clinical decision may also significantly reduce prescribing errors23,24.

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# REFERENCES

1. Dean B, Schachter M, Vincent C, Barber N. Causes of prescribing errors in hospital inpatients: a prospective study. Lancet 2002; 359:1373-78.
2. Lesar T, Briceland L, Stein D. Factors related to errors in medication prescribing. JAMA 1997; 277:312-7.
3. Millennium Research Group. Medical error is the fifth- leading cause of death in the U.S. [Online] 2008 [Cited on 2008 February 01] Available from: URL: http:// [www.news-medical.net/?id=26815.](http://www.news-medical.net/?id=26815)
4. Dean B, Barber N, Schachter M. What is a prescribing error? Qual Health Care 2000; 9: 232-7.
5. Lambert B, Chang K, Lin S. Effect of orthographic and phonological similarity on false recognition of drug names. Soc Sc Med 2001; 52:1843-57.
6. American Hospital Association, American Society of Health-System Pharmacists, Hospitals & Health Net- works. Medication safety issue brief. Eliminating dan- gerous abbreviations, acronyms and symbols. Hosp Heal Netw 2005; 79:41-2.
7. Lesar T. Prescribing Errors Involving Medication Dos- age Forms. J Gen Intern Med 2002; 17: 579–87.
8. Suzuki T, Uchida H, Watanabe K, Yagi G, Kashima

H. A clinical case series of switching from antipsy- chotic polypharmacy to monotherapy with a second-generation agent on patients with chronic schizo- phrenia. Prog Neuro-Psychopharm Bio Psych 2004; 28:361-9.

1. Correll C, Frederickson A, Kane J, Manu P. Does antip- sychotic polypharmacy increase the risk for metabolic syndrome? Schizo Res 2007; 89:91-100.
2. Richardson S, Farias S, Lima A, Alsaadi T. Improvement in seizure control and quality of life in medically refrac- tory epilepsy patients converted from polypharmacy to monotherapy. Epil Beh 2004; 5:343-7.
3. Filik R, Purdy K, Gale A, Gerrett D. Drug name confusion: evaluating the effectiveness of capital (“Tall Man”) letters using eye movement data. Soc Sc Med 2004; 59:2597-2601chiatry. Psych Bull 2003; 27: 208-10.
4. Haw C. Prescribing errors in psychiatry. Psych Bull 2003; 27: 394.
5. Guy J, Persaud J, Davies E, Harvey D. Drug errors: what role do nurses and pharmacists have in minimizing the risk? J Child Health Care 2003; 7:277-90.
6. Buurma H, De Smet PAGM, Leufkens HGM, Egberts ACG. Evaluation of the clinical value of pharmacists’ modi- fications of prescription errors. Br J Clin Pharmacol 2004; 58: 503-11.
7. Rabol L, Anhoj J, Pedersen A, Pedersen B, Hellebek
   1. Clinical decision support: Is the number of medication errors reduced? Uges Laeg 2006; 168: 4179-84.
8. Reifsteck M, Swanson T, Dallas M. Driving out errors through tight integration between software and automa- tion. J Healthc Inf Manag 2006; 20:35-9.