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 human errors; the findings varied in each country and setting[1, 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 causes[3]. Errors occurring at the time of prescription writing are the easiest to be prevented; therefore, they are important targets for improvement[1]. ''A clinically meaningful prescribing error occurs when, as a result of a prescribing decision or prescription writing process, there is an unintentional significant (1) reduction in the probability of treatment being timely and effective or (2) increase in the risk of harm when compared with generally accepted practice''[4,5]. Recently there has been a growing concern about error issues in medicine both internationally and regionally. In 2003, the Daily News published an article on medication errors and the impact of consumer awareness[6]. In their editorial for the Journal of Postgraduate Medicine, India, Mehta and Gogtay addressed the prescribing errors issue and invited for two articles concerning the same issue[7,8]. 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 patients[9]. The Department of Health in the United Kingdom planned to reduce serious prescribing errors by 40% in the year 2005[10]. Unfortunately 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 prescribing errors in psychiatry ward and explores the types of errors being encountered.

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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: "order to break a delivery system that shouldn't be broken"[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 maximum 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 Department of a hospital in Lahore. The study was conducted 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 prescribing 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, medications and assessment were scanned using the near snap option to produce scans that can be viewed and enlarged using computer. Then the scans were viewed on

a computer, prescribing errors were identified and classified.

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%**

RESULTS

The total number of medications prescribed to the fifteen inpatients during the study period was 84 medications. 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 prescribed, 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 presented in Table 2.

DISCUSSION

The results show comparatively high error percentage regarding "Order to Break a Delivery System that shouldn't be Broken". Quinzler and associates conducted a study in Germany, their study showed comparative results, as 24.1% of the drugs investigated were split[10]. Studies suggest that prescribers must be discouraged to prescribing tablets in halves, since alternatives are commercially available. Polypharmacy persists as treatment option, in contrast with monotherapy

Table 2

Details of Prescribing Errors Identified in Psychiatry Department

No.	Error Type	No. of Errors Detected	Error Percentage
1	Order to Break a Delivery System that Shouldn't be Broken[7]	9	27.27
2	Polypharmacy Error[8]	7	21.21
3	Dose Error[9]	5	15.15
4	Major Misspelling of a Drug's Name[10]	3	9
5	Regimen not that Recommended by Literature or Manufacturer[5]	3	9
6	Not Specifying the Maximum Dose when Prescribing as s.o.s "when needed"[5]	3	9
7	Ambiguous Medication Order[11]	2	6
8	Dosage Form Error[12]	1	3

"monopharmacy", for many psychiatric disorders. Our study reveals that polypharmacy was the treatment option 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 comparatively high. In a study conducted in Japan, polypharmacy was the norm, researchers proved significant improvements when the prescribing norm switched to monotherapy[16-18]. Dose error was the third highest occurring. 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 percentage in 4951 prescriptions[12]. Prescribers are advised to adhere to guidelines whether provided by manufacturers or accessed from any authentic source. "Major Misspelling of a Drug's Name", "Regimen not that recommended by Literature or Manufacturer", and "Not Specifying 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 fatal[7, 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 confusing[19]. 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 recommendations for dose, frequency and duration[4]. 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 medication 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 medication prescribed as "s.o.s". Another error existed related to handwriting and incomplete information provided in the prescription. Ambiguous medication orders could lead to failure to dispense the desired medication or dispensing another "wrong" medication, dose, frequency or combination[14]. The last error type identified was dosage form related. Medications prescribed as tablets, while the tablet dosage from is commercially inexistent; similarly for capsules, syrups, and injectables[12].

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 errors in psychiatry wards in Pakistan hospitals are crucially needed[17,20]. Interventions and prescriptions modification made by pharmacist and nurse may also help minimize prescribing errors as a study indicated[21,22]. 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 errors[23,24].

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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.
4. Dean B, Barber N, Schachter M. What is a prescribing error? Qual Health Care 2000; 9: 232-7.
5. Ghaleb M, Barber N, Dean B, Franklin, Wong I. What constitutes a prescribing error in paediatrics. Qual Saf Health Care 2005; 14:352-7.
6. Medication error. [Online]2003 [Cited on 2003, August 30]. Available from URL: http://www.dailytimes.com.pk.
7. Mehta S, Gogtay N. From the pen to the patient: Minimizing medication errors. J Postgrad Med 2005; 51:3-4.
8. Pote S, Tiwari P, Dcruz S. Medication prescribing errors in a public hospital in India: A prospective study. Phar Pract 2007; 5: 17-20.
9. Paton C, Gill-Banham S. Prescribing Errors in Psychiatry. Psych Bull 2003; 27: 208-10.
10. 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.
11. Gorard D. Escalating polypharmacy. QJM 2006; 99: 797-800.
12. Vesna B, Mira B, Velimir B, Mladen B. Prescribing medication errors in hospitalized patients: A prospective study. Acta Pharm 2005; 55: 157–67.
13. 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.
14. American Hospital Association, American Society of Health-System Pharmacists, Hospitals & Health Networks. Medication safety issue brief. Eliminating dangerous abbreviations, acronyms and symbols. Hosp Heal Netw 2005; 79:41-2.
15. Lesar T. Prescribing Errors Involving Medication Dosage Forms. J Gen Intern Med 2002; 17: 579–87.
16. Suzuki T, Uchida H, Watanabe K, Yagi G, Kashima H. A clinical case series of switching from antipsychotic polypharmacy to monotherapy with a second-generation agent on patients with chronic schizophrenia. Prog Neuro-Psychopharm Bio Psych 2004; 28:361-9.
17. Correll C, Frederickson A, Kane J, Manu P. Does antipsychotic polypharmacy increase the risk for metabolic syndrome? Schizo Res 2007; 89:91-100.
18. Richardson S, Farias S, Lima A, Alsaadi T. Improvement in seizure control and quality of life in medically refractory epilepsy patients converted from polypharmacy to monotherapy. Epil Beh 2004; 5:343-7.
19. 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.
20. Haw C. Prescribing errors in psychiatry. Psych Bull 2003; 27: 394.
21. 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.
22. Buurma H, De Smet PAGM, Leufkens HGM, Egberts ACG. Evaluation of the clinical value of pharmacists' modifications of prescription errors. Br J Clin Pharmacol 2004; 58: 503-11.
23. Rabol L, Anhoj J, Pedersen A, Pedersen B, Hellebek A. Clinical decision support: Is the number of medication errors reduced? Uges Laeg 2006; 168: 4179-84.
24. Reifsteck M, Swanson T, Dallas M. Driving out errors through tight integration between software and automation. J Healthc Inf Manag 2006; 20:35-9.