MuthuKumar Andhuvanjseral et al /J. Pharm. Sci. & Res. Vol. 11(5), 2019, 2109-2112

ISSN:0975-1459
Journal of Pharmaceutical Sciences and Research
www.jpsr.pharmainfo.in

Medicine Errors in Dosage Forms and strategies to enhance the auxiliary labeling for Patient Care in Kongu Nadu region Tamil Nadu

MuthuKumar Andhuvanjseral, Prakash .G, Gayathri .R, SundaraGanapathy .R, Mohan .S
Krupanidhi College of Pharmacy, Bangalore -35, Karnataka, India.
Karpagam College of pharmacy, Othakalmandapam, Coimbatore-21, Tamil Nadu,
Faculty of Pharmacy, Karpagam Academy of Higher Education, Coimbatore-21, Tamil Nadu, India.

Abstract

To recognize and measure the endorsing mistakes engaged with dose frames and propose approaches to improve/adjust/change the assistant naming for patient consideration. We all make blunders in measurements frames every once in a while. There could be numerous wellsprings of dose structure blunders that can be dodged. In any case, we should begin by being cognizant, that blunders are conceivable, essential strides to be taken to maintain a strategic distance from/limit the dangers or result. This examination was performed to assess recommending blunders identified with dose structure in different emergency clinics in kongu nadu region, Tamil Nadu. An aggregate of 887 clinically critical medicine including measurement structure mistake were recognized for over the time of a half year and results were recorded. This outcome demonstrates that 67.8% of remedy was not having any measurement structure mistake; however 32.1% of information indicated solution blunders. This review result demonstrates that 95% of drug specialists detailed deficient information in naming. In this investigation, we likewise took the recommendation from 133 network drug specialists to improve the assistant marking. This examination will be helpful, in recognizing the conceivable mistakes and approaches to stay away from them. This will likewise edify the prescriber and medicinal services experts.

Keywords: Prescription errors, Community Pharmacist, Auxiliary marking and Patient consideration

1. INTRODUCTION

The act of drug store has experienced a noteworthy change in the twenty-first century (1-3). In spite of the fact that drug specialists assume a noteworthy job in their calling, it is farfetched that their job in administering and guiding the meds will ever be completely supplanted with other expert duties (4, 5). Aside from simply apportioning, drug specialists are eventually in charge of guaranteeing that the prescriptions are protected, precise and suitable for the patient. Huge numbers of network drug specialists are applying assistant names to solution bottles as a push to advise the patients of the essential data related with the meds (6-8). These assistant marks change in the message. Lamentably, we found that the absence of required data in the marking as one of the genuine medicinal issues (9-11). Remedy example and, increment the prescriber and drug specialist mindfulness is useful for the data on the measurement frames and improving assistant name can conceivably diminish fatalities related with utilization the wrong prescriptions (12-14).

2. METHODOLOGY

2.1. Subject and setting

This clinical investigation was done in different emergency clinics situated in Coimbatore, Tamilnadu India. The medicine mistakes information was gathered from different facilities in the outpatients' specialization.

2.2. Test estimate

In this examination 887 remedy were assessed amid the multi month consider period and furthermore 133 drug specialists were met from different clinics and retail drug store.

2.3. Study structure and endorsement

This examination used to watch solution mistake for over the time of a half year and the result was recorded and furthermore this investigation endorsement will be gotten from the Institutional Human Ethics Committee (IHEC/114/Pharmacy/09.2017).

2.4. Study materials

a) Dosage structure mistakes in solution
b) Auxiliary marking
c) Validated people group drug specialist intercession

3. RESULTS AND DISCUSSION

An aggregate of 887 clinically critical solution mistakes in doses structure were found amid this examination period. The yearly number of recognized and measured dose structure mistakes was expanded all through the examination. Point by point investigation of the 285remedy mistakes was distinguished amid 09 months of the examination which proposed that normal medicine blunders comprised of a sum of 32.15% all things considered; appeared (Table-1). 7.33% of prescribers don't make reference to any measurements structure in their remedy. 8.81 % of doctors are making blunder in measurement structure and composing cases rather than the tablets and then again 21.08% of doctors are referencing tablets rather than containers. 0.5% of medicinal specialists were found to have referenced containers rather than repsules, appeared (Table-1). Medicine blunders are the most vital variables for real and potential unfriendly medication responses. There are different parameters identified with mistakes in solution including wrong finding of the patient attributes; ill-advised medication information; portion routines and definition. Blunders in marking and methods for improving the helper name to maintain a strategic distance from the patient consistence and better medication regimens for the patients' consideration is appeared (Table-2).

Table 1: Mistake of solution in different definitions

Measurements shapes in the market	Dosage structure blunders in Prescription	Number of mistakes	Percentage %
Suppository	Capsules	08	0.90
Tablet	Capsules	57	6.43
Ointments	Cream	17	1.92
Respules	Capsules	02	0.22
Pastilles	Capsules	02	0.22
Cartridge	Vial	19	2.14
Vial	Cartridge	14	1.59
Vial	Ampoules	08	0.90
Ampoules	Vial	03	0.34
Spray	Drops	03	0.34
Drops	Spray	04	0.45
Tablet/capsules /syrup/sachet/Suppositories	The physician does not mention any dosage forms	65	7.33
Syrups	Drops	03	0.34
Drops	Syrups	02	0.22
Capsules	Tablet	78	8.81
Total		285	32.15

Table 2: Approaches to improving the helper marking for patient consideration

Samples	**Requisite modification for labeling**
CEFTAS O is blend of (cefixime + ofloxacin) at the same time, TAXIM O is just cefixime.	Keep up the consistency, for naming in mix
In Diamicron MR (Gliclazide) MR alludes to adjusted discharge tablet however if there should be an occurrence of Etova MR (Etodoloc +Thiocolchiside) MR alludes to muscle relaxant.	Maintaining a strategic distance from a similar wording for various classes of medications.
Language is serious issue for some patients to comprehend the medicine course. India is a nation with numerous dialects, yet the naming is done just in English. Rather pictograms are effectively justifiable.	Pictograms ought to be joined.
Similar medications of various brands have contrast in naming which prompts perplexity in the apportioning area. The continued discharge measurements shapes are marked in different wordings XR, XL, OD, CD and so forth.	Need Uniformity in the marking framework
Labeling is affirmed from power ought not change without profitable reason. If change happens oftentimes, the patient winds up unsatisfied/awkward in taking prescription especially matured and uneducated patient.	To keep up changeless naming framework for a particular item
Many medicate atoms are contraindicated amid pregnancy and lactation yet certain particles notice the alert articulation for example isotretoin and thalidomide .The vast majority of the atoms, for example, statins and anti-infection agents disregard such messages.	All meds should make reference to unique guidelines for pregnancy and exceptional populace.
Methotrexate is usually taken once or twice per week and not every day.	Proper instructions to be mentioned about dose on label
All marks must contain without toll numbers. Just a couple of organizations actualized this kind of directions	Sans toll number for ADR revealing

This examination tinted the trouble looked by the general professional, network drug specialist and furthermore patients because of medicine mistakes (15, 16). Viable proposal for advancement were taught which whenever actualized would lessen solution blunders in a measurements structure which are an imperative reason for patients dreariness, mortality and unreasonable cost, medico-legitimate and untrustworthy practices (17-19). The very much qualified specialists and drug specialists have confronted issues with the medication name of different sorts. 32.15% of doctors and 70% drug specialist have discovered missing names. Improving the solution design

and naming is a critical factor for the security forms, inside the medicinal services group. For the most part, distinguishing the mistakes of solution identified with dose structure issues and it is basic for diminishing the patient consistence and unfavourable medication occasion (20,21). Mechanized procedures were incorporated by prescribers and standardized identification recognizable proof of drug could altogether diminish blunders identified with measurement frames (22). Control of access to meds mistakes through safe clinic model, acquiring, administering, and conveyance, stockpiling, and medication stock evacuation procedures can avert blunders basically by making a drug out of stock or open just in restricted conditions (23). These investigations additionally exhibit the critical criticalness of drug specialist audit of medication marking before the heading of remedy (24). Further, pharmaceutical businesses must improve the assistant marking through the help and coordination of drug specialists which is a compelling technique in patient consideration (25, 26). This additionally lessens the hazard for bothersome impact as a rule, and would almost certainly improve the guidance and utilization of measurements shapes (27-30).

4. CONCLUSION

Solution blunders including dose shapes are normal and appropriate security procedures, for example, a network drug specialist request audit is a need; else there is a huge hazard to patients. The rising use and openness of one of a kind measurements structure may represent the expanding number of mistakes recognized over the 15 months investigation time frame. The finding of repeating blunders of comparable kind backings the ideas that recommend mistakes are related with recognizable elements, which gives an opportunity to focused enhancements during the time spent medicine use. Upgrades in human services supplier information, measurements structure security configuration, improved terminology, assistant marking with sufficient enhancements in drug use framework forms is essential for protecting patients from blunders of solution including medicine dose shapes.

Conflicts of Interest

All Authors declare no conflicts

Acknowledgements

The authors are sincere thankful to Dr. R.VasanthaKumar, Chairman Karpagam Educational Institutions and Dr. S.Mohan, Principal Karpagam College of Pharmacy, Coimbatore Tamil Nadu India.

REFERENCES

1. Vishal Chaudhari, Bharati Chaudhari, Avinash Khairnar. A Cross-Sectional Prescription Audit Database for Anti-Anginal Drugs with Impact of Essential Drug List and Standard Treatment Guidelines on Prescription Pattern in Nasik City. Research J. Pharm. and Tech. 4(7): July 2011; Page 1111-1114.
2. Kenzie A, Cameron K, Ross E, Clayman M, Micheal S. Wolf. Measuring patients' self-efficacy in understanding and using prescription medication. Patient Education and Counseling 2010; 80(3): 372-376.
3. Ms. Kalaivani R, Ms. P.Saranya. A prospective observational study on the attitude and experience of community pharmacists towards off-label and unlicensed prescriptions for the pediatric population. Research J. Pharm. and Tech. 2017; 10(1): 149-154.
4. Sumon K D, Tripti RP, Monalisa M, Ambia K, Rafiqul I, Ashraf. Patterns of prescription and antibiotic use among outpatients in a tertiary care teaching hospital of Bangladesh. Int J Pharm Pharm Sci 2016; 8(11):60-63.
5. Jagadeesan M, Manikandan R, Nandamuri Sri Sai Sudha. The Drug-Drug Interactions: Affecting the Rationality of Prescriptions. Research J. Pharm. and Tech 2018; 11(7): 3077-3080.
6. Davis T, Wolf M, Bass P, Ruth M. Low Literacy Impairs Comprehension of Prescription Drug Warning Labels. JGIM 2006; 21(8): 847-851.
7. Didonet J, Mengue S. Drug labels: Are they a readable material. Patient Education and Counseling 2008; 73: 141-145.
8. Houts PS, Doak CC, Doak LG, Loscalzo MJ. The role of pictures in improving health communication: a review of research on attention, comprehension, recall and adherence. Patient Education and Counseling 2006; 61(2): 173-190.
9. Lesar TS. Errors in the use of medication dosage equations. Arch Pediatr Adolesc Med 1998;152(4):340-344.
10. Lesar TS, Briceland L, Stein DS. Factors related to errors in medication prescribing. JAMA 1997; 277(4):312-7.
11. Purty B, Raymond AM, Lesar TS. Antiretroviral prescribing errors in a teaching hospital. Ann Pharmacother 2000;34(7-8):833-8.
12. Dr. S. Ramachandra Setty. Medication errors. Journal of Pharmaceutical Research 2015:29-30
13. P. Maheshwari, T. S. Shanmugarajan, P. Shanmugasundaram. A Prospective Study on assessment of Quality of Prescribing in Patients with Hypertension using Prescription Quality Index (Pqi) Tool in a Tertiary Care Hospital. Research J. Pharm. and Tech 2019; 12(2):541-544.
14. Lesar TS, Briceland LL, Delcoure K, Parmalee JC, Masta-Gornic V, Pohl H. Medication prescribing errors in a teaching hospital. JAMA 1990; 263(17):2329-34.
15. Chilukuri Paramathma. Potential hazards of illegible prescriptions: look alike sound alike trade and generic names. Journal of Pharmaceutical Research 2015; 14(4):98-101
16. Lesar TS, Lomaestro BM, Pohl H. Medication prescribing errors in a teaching hospital: a nine-year experience. Arch Intern Med 1997; 157:1569-76.
17. N. Anitha , T. Mamatha, J .Raghuram, Waseem Maheen. Evaluation of medication errors in an acute multi care unit in a tertiary care hospital. Journal of Pharmaceutical Research 2016; 16(3):86-90
18. Jeetu G, Girish T. Prescription Drug Labeling Medication Errors: A Big Deal for Pharmacist. JYP 2010; 2(1): 107-111.
19. Hwang S, Tram C, Knarr N.The effect of illustrations on patient comprehension of medication instruction labels. BMC 2005; 6: 26.
20. Wolf M, Davis T, Shrank W, Rapp DN, Bass PF, Connor UM, et al. To err is human: Patient misinterpretation of prescription drug label instructions. Patient Education and Counseling 2007; 67(3): 293-300.
21. Shiyanbola OO, Meyer BA, Locke MR, Wettergreen S. Perceptions of prescription warning labels within an underserved population. Pharmacy Practice 2014; 12(1): 387.
22. Dr Bhavana Srivastava, Dr Chandra Prakash, Dr Ajay kumar Sinha, Dr Sanjay Gaur, Dr. Mukesh Kumar Prasad. Errors in Drug Labeling and Medico-Legal Awareness. J Indian Acad Forensic Med 32(3): 0971-0973.
23. Pawar M.P., Patil N.P., Baviskar D.T. A Looming For Interactions between Indigenous and Prescription Drugs.Research J. Pharma. Dosage Forms and Tech. 2011; 3(3): 93-95.
24. Anaghya V Naik, Hebsiba Joseph, Nidhina Mathew, Sumanth Shetty, Rajesh K S, Bharath Raj KC, Juno J Joel1, Gururaj MP, Nandakumar UP. Drug Prescription Pattern in Paediatric Respiratory Tract Infections. Research J. Pharm. and Tech. 2019; 12(3): 1280-1284.
25. You W, Grobman W, Davis T, Curtis LM, Bailey CS, Wolf M. Improving pregnancy drug warnings to promote patient comprehension. AJOG 2011; 318: 1-5.
26. Narne Akhil, Preethi P Thomas, Shivaraj D R, Susmi Mariyam Thomas, Sushilkumar, P Londhe. Assessment, Evaluation, And Analysis Of The Medication Errors Of The Patients Admitted At The Emergency Department Of A Tertiary Care Teaching Hospital

Of A South Indian City. Asian J Pharm Clin Res 2017; 10(5):161-165

27. Tan Suet, Mazlina Mohd, Raha Abdul , Nur Akmar. An investigation of errors: the preparation and administration of parenteral medications in an intensive care unit of a tertiary teaching hospital in Malaysia. Int J Pharm Pharm Sci 2016; 8(3):325-329.
28. Shagufta Nesar, Muhammad Harris Shoaib, Najia Rahim, Wajiha Iffat, Sadia Shakeel, Rehana Bibi**.** Prescription writing practices and errors in prescriptions containing cardiovascular drugs especially ace inhibitors in Karachi, Pakistan. Asian J Pharm Clin Res 2015; 8(4):53-55.
29. Garima Sinha, Leelavathi D Acharya, Girish Thunga, Treasa Mathews. A Study Of Medication Errors In General Medicine Wards Of The South Indian Tertiary Care Hospital. Asian J Pharm Clin Res 2016; 9(4): 196-200.
30. Webb J, Davis T, Bernadella P, Clayman ML, Parker RM, Adler D, et al. Patient-centered approach for improving prescription drug warning labels. Patient Education and Counseling 2008; 72(3): 443-449.