Assessment of Drug Related Problems in Stroke Patients Admitted in Various Clinics of Pakistan

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Abstract

Medications are used in stoke patients to optimize health care therapy with least drug related problems (DRPs). Negative outcomes are produce due to wrong drugs prescribing which leads to drug related problems. The chance of drug related problems may take place at all stages of treatment process from prescribing to follow-up of the treatment. Hence, it is significant to consider the DRPs to overcome the serious grievance or death and assess whether improvement in medicinal therapies and prescribing practices can be made to decrease the adverse effects occurring in the future. The aim of this study is to identify types, rate pattern, & clinical consequence of Drug related problems in stroke patients. Methodology: A hospital based prospective study was performed in neurology ward of a tertiary care hospital , Pakistan. The sample size is 100 prescriptions which were collected in duration of 6 months from April 2019-November 2019. Demographic & clinical information was collected from the special case records. This study data was evaluated to determine the pattern, rate, and outcomes of Drug related problems in strokepatients.

RESULTS

A total of 71 DRPs were identified in 100 patients. The incidence of drug related problems was 1.5 per patient. Mostly drug related problems were found in patients of age group of 51-70years (28.1%). The most frequently observed drug related problem was drug interactions (26.1%) followed by adverse drug reactions (14.0%) and drug use without indication (14.5%). The most frequently observed ADRs were Amlodipine induce constipation (23.3%) followed by Atorvastatin caused myopathy (17.6), insulin induced hypoglycemia (17.7) and Atorvastatin caused myopathy (11.6%). Majority 81.3% ADR were observed with 'Mild' in severity, 21.1% was found to be 'Moderate' and none of the drug ADRs were reported to be in severe condition. The acceptance rate of interventions was found to be (98.2%) by the Health care professionals, change in medicine therapy was observed only in 71%.

CONCLUSION: the outcomes of this study show that DRPs frequency of 1.5 per patient. Drug-drug interactions (26%) were the most common drug related problems while acceptance rate of pharmacist's interventions was 98.2%, change in medicine therapy was observed only in 71%. Early finding and records of drug related problems get better the therapeutic consequences. Initial and adopting the standard guidelines regarding the drug utilization, prescribing and dispensing would diminish the drug relatedproblems.

Introduction

Medications are used in stoke patients to optimize health care therapy with least drug related problems (DRPs). Negative outcomes are produce due to wrong drugs prescribing which leads to drug related problems. The chance of drug related problems may take place at all stages of treatment process from prescribing to follow-up of the treatment. Hence, it is significant to consider the DRPs to overcome the serious grievance or death and assess whether improvement in medicinal therapies and prescribing practices can be made to decrease the adverse effects occurring in thefuture.

Stroke is the 2nd most common reason of death globally and is a leading cause of long term disability in adults. Stroke prevalence increases with the age, cardiac problems and dyslipidemia[1]. Health care person continue to seek ways to attain better functional improvement in stroke patients and decrease the disturbing impact of stroke on our society. Numerous studies have been shown that patients with stroke are come in high risk for the development of DRPs due to old age, co morbidities and miss use and over use of medications. so, identifying and resolving DRPs is an imperative priority for health care professionals for getting better the remedial benefits and health correlated quality of life in stroke patient [2,3]. Participation of pharmacists in patient care was proven to improve treatment adherence with decreasing prescribing errors. This service has

decrease health care costs, and mortality with improved the health related quality of life. previous Studies have been demonstrated the regular benefits of pharmacist concern in the managing of stoke, which are measured two major modifiable risk factors in stroke prevention. Provision of clinical pharmacy services ensure that medicine therapy is most favourable, safe and sound, cost-effective and individualized and helps in resolving drug related problem[3-6].

Methodology: A hospital based prospective study was performed in neurology ward of a tertiary care hospital , Pakistan. The sample size is 100 prescriptions which were collected in duration of 6 months from April 2019-November 2019. Demographic & clinical information was collected from the special case records. This study data was evaluated to determine the pattern, rate, and outcomes of Drug related problems in stroke patients.

Results:

A total of 71 DRPs were identified in 100 patients. The incidence of drug related problems was 1.5 per patient. Mostly drug related problems were found in patients of age group of 51- 70years (28.1%). The most frequently observed drug related problem was drug interactions (26.1%) followed by adverse drug reactions (14.0%) and drug use without indication (14.5%). The most frequently observed ADRs were Amlodipine induce constipation (23.3%) followed by Atorvastatin caused myopathy (17.6), insulin induced hypoglycemia (17.7) and Atorvastatin caused myopathy (11.6%). Majority 81.3% ADR were observed with 'Mild' in severity, 21.1% was found to be 'Moderate' and none of the drug ADRs were reported to be in severe condition. The acceptance rate of interventions was found to be (98.2%) by the Health care professionals, change in medicine therapy was observed only in71%.

Discussion:

DRPS are relatively common in hospitalized patients and can be resulted in patient morbidity mortality and increased costs of treatment. Previous studies show that multiple drugs used, more will be the number of pharmacological risk factors extensively contribute to the risk for DRPs. In current study, a total of 71 DRPs were identified in 100 patients.

The total number of DRPs, were obtained more in the male population (57.7%). This observation is agreed with the demographic information of the study conducted by [7] Ganachari M S et al , cited a prevalence in male gender over female gender. Another study reported by Madhan [8] Ramesh et al has been shown similar predominance of males over females.

Demographic data		
Variables	No of patients	Parentages
Gender wise distribution		
Males	41	57.7%
Females	30	42.3%
Age wise distribution		
Below 10 years	8	11.3%
11-30	11	15.5%
31-50	14	19.7%
51-70	20	28.1%
Above 70	18	25.4%

Drugs	Drug induced ADRs	Percentage
Amlodipine	Constipation	23.3%
Atorvastatin	Myopathy	17.6%

The incidence of DRPs was high in patients aged between 51-70 years (28.1%). Previous studies showed that potential contributing factors of DRPs, the association between poly pharmacy and the incidence of DRPs has been studied and [9,10] documented.

Current study showed that most commonly observed drug related problem was drug interactions (26.1%) followed by adverse drug reactions (14.0%) and drug use without indication (14.5%). According to severity of adverse drug reaction resulta showed that Majority 81.3% ADR were observed with 'Mild' in severity, 21.1% was found to be 'Moderate' and none of the drug ADRs were reported to be in severe condition. Results of acceptance rate of interventions was found to be (98.2%) by the Health care professionals.

The overall surveillance made from this observation was

that the pharmacist as an fundamental part of healthcare team and has superior responsibility in minimizing the DRPs and adverse drug reactions in stroke patients. Monitoring the patients for DRPs can be decrease the chances of iatrogenic morbidities and contribute for an improved patient care. This will be increasing the treatment outcome and overall quality of life of the patients.

CONCLUSION

The outcomes of this study show that DRPs frequency of 1.5 per patient. Drug-drug interactions (26%) were the most common drug related problems while acceptance rate of pharmacist's interventions was 98.2%, change in medicine therapy was observed only in 71%. Early finding and records of drug related problems get better the therapeutic consequences. Initial and adopting the standard guidelines regarding the drug utilization, prescribing and dispensing would diminish the drug relatedproblems.

These recommendations included counselling the patients and health care staff regarding the importance of adhering to medications, suggesting health care professionals to concern prescription for a meticulous drug.

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