



Impact of Physician Knowledge on the Incidence and Prevalence of Patient Admissions

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Abstract

This study sought to determine how interventions by medical practitioners affect the quality of patient safety and drug therapy, with particular emphasis on elderly patients with drug-related hospitalization. From the previous literature, some of the adverse events that had been documented to cause drug-related mortality and morbidity among elderly patients include inappropriate prescribing, suboptimal dosages, and medication errors. Therefore, this study employed a randomized controlled trial to find out the degree to which clinical pharmacists' interventions could prove informative relative to the reduction of morbidity. The target population constituted elderly patients aged 80 and above. From the findings, this study established that fewer hospital visits were reported in the intervention group. It is also notable that the study established a general positive attitude to the new collaboration (among nurses, general practitioners, and hospital-based physicians). In future, there is a need to investigate how demographic characteristics on the parts of clinical pharmacists and patients might affect the outcomes of the pharmacists' service incorporation into the rest of the healthcare teams.

Keywords: Physician Knowledge, Patient Admissions etc.

1 Introduction

Whereas the number of healthy and fit elderly persons is increasing [1-3], it is also worth indicating that the number of those who are frail and vulnerable is increasing [4], hence the need for health care interventions. The majority of the population has cognitive conditions (including dementia) and the need for close attention could not be overemphasized. It is also worth noting that pharmacists have continually been seen as the healthcare teams' natural members [5, 6]. This trend accounts for the increasing recognition of the concept of clinical pharmacy [7]. With the pharmacists included in the healthcare teams to steer multi-professional collaborations [8, 9], some of the subjects that have proved important to investigate include the appropriateness of prescribing, healthcare utilization, the reduction of drug costs, and patient safety via reduced medication errors and other adverse or sentinel

events [10]. The aim of this study was to determine the degree to which interventions by clinical pharmacists might shape healthcare attributes of patient safety and drug therapy, with specific emphasis on the case of elderly patients with drug-related hospitalization.

2 Methodology

The study involved a randomized controlled trial that strived to compare the outcomes of patients receiving a more comprehensive and enhanced service from clinical pharmacists (alongside the rest of the healthcare teams) with those who received non-pharmacists (standard) care. With 400 patients selected for analysis and monitoring, the inclusion criterion was that they (the hospitalized patients) were expected to be aged 80 and above. Also, the recruitment of the participants was done in the context of acute internal medicine wards, which were selected randomly. Also, the selected patients

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were assigned to the control or intervention groups randomly. For the intervention group patients, clinical pharmacists offered enhanced services such as compiling comprehensive lists of current medications to support decision-making in the emergency departments, performing drug reviews and advising physicians regarding monitoring, needs, dosages, and drug selection, and educating and monitoring patients. Also, the clinical pharmacists assigned to the intervention group offered discharge counseling to the patients, communicated discharge medication information to the patients' primary care representatives or family members, and conducted follow-up via phone calls; about two months after discharging the patients.

3 Results and Discussion

Drug-related causes for re-admission	Intervention (n=9)	Control (n=45)
Digoxin intoxication	1	3
Over-prescribing of antihypertensive agents	1	8
Sub-optimal drug therapy – heart failure	0	5
Sub-optimal drug therapy – ischaemic heart disease	0	2
Dehydration due to over-prescribing of diuretics	3	5
Anaemia due to aspirin or NSAIDs	0	4
Confusion and or fall due to sedatives, opioids or anticholinergics drugs	1	9
Sub-optimal drug therapy – diabetes mellitus	3	2
Diarrhoea due to antibiotic treatment	0	2
Hyperkalaemia	0	1
Hyponatraemia due to diuretics and SSRI therapy	0	2
Lack of drug treatment – atrial fibrillation (embolism)	0	1
Bleed (haematoma) due to warfarin	0	1

From the table above, it is evident that the number of readmissions was 54 and that the intervention group had nine readmission cases reported while the remainders (45) were reported in the control group. Based on this outcome, it was inferred that for elderly patients with drug-related hospitalization, clinical pharmacist cooperation yields fruitful

Following the analysis of the results of the intervention group and the control group, there was a significant decrease in the intervention group's visit to the emergency departments (47.0%). One of the factors that played a crucial role of reducing the visits involved follow-up phone calls by the clinical pharmacists, having provided room for the elderly patients to express their concerns and also raise questions about drug therapy without necessarily visiting the emergency departments or hospitals. However, there was no significant difference in the readmission rates between the intervention group and the control group. The table below summarizes the study's findings in relation to the drug-related readmissions that were established between the control group and the intervention group.

outcomes in terms of significant reduction of the length of hospital stay, as well as readmission rate; a trend that was evidenced by fewer numbers of readmission (nine out of 54) in the intervention group. Similarly, there was a four-percent increase in the risk of hospitalization for the control group because most of the previous literature contended

that for each added drug, there is increased likelihood of readmission [7-10].

Indeed, several factors accruing from the clinical pharmacists' intervention were inferred to account for improved prescription appropriateness. Some of these factors included the pharmacists and the rest of the healthcare teams' extensive communication with patients, the close working relationship among pharmacists, nurses, and doctors, and knowledge of and the focus on population- and condition-specific prescriptions in which clinical pharmacists monitored and advised on the dosages after tailoring them to the needs of patients. Overall, inter-professional collaboration was observed to play a leading role in enhancing patient outcomes within the intervention group. Also, general practitioners were positive about the inclusion of the services of clinical pharmacists into the rest of the healthcare teams' arrangements. However, nurses and hospital physicians were more positive about the service than the general practitioners. Hence, it remains inferable that if a close and trusting relationship between clinical pharmacists and the rest of the healthcare teams is established, inter-professional collaboration is likely to be achieved and, in turn, yield more fruitful outcomes regarding improved quality and appropriateness of drug prescribing, reduced lengths of hospital stays, reduced rates of mortality and morbidity, and reduced cases of avoidable readmissions among elderly patients with drug-related issues. The weaker relationship between general practitioners and clinical pharmacists, as evidenced by the less positive attitude or support for pharmacist intervention (by the general practitioners) could be explained by the arrangement whereby the two groups only communicated via occasional phone calls and fax; hence indirect relationships.

4 Conclusion

In summary, the provision of a comprehensive clinical pharmacist intervention in the intervention group led to reduced hospital visits. Also, the intervention proved cost-effective. Similarly, there was a significant improvement in prescription appropriateness in the intervention group. It is also notable that the study established a general positive attitude to the new collaboration (among nurses, general practitioners, and hospital-based physicians). In future, there is a need to investigate how demographic characteristics on the parts of

clinical pharmacists and patients might affect the outcomes of the pharmacists' service incorporation into the rest of the healthcare teams.

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