How Do Nephrologists Accept Pharmacists’ Recommendations on Geriatric Patients’ Drug Therapy? A Brief Review

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Received: 2018-10-02, Revised: 2018-11-04, Accept: 2018-11-11, Published: 2018-12-01

Keywords:
Geriatrics;
Nephrology;
Pharmacists

ARTICLE INFO

Article type:
Review article

ABSTRACT

Geriatric patients are at greater risk of drug related problems due to increased prevalence of chronic diseases and drug consumption. But at the same time, an important issue in the collaboration of pharmacists and physicians, is the acceptance of the pharmacist’s recommendations by other specialties. The present review summarizes the acceptance rate of nephrologists towards pharmacist recommendations. PubMed and google scholar were searched from 1979 to 2016. The key terms were: physician-pharmacist, physician acceptance, pharmacist intervention, elderly patients, nephrology, renal disorder, pharmacist assessment, geriatrics, physician pharmacist collaboration. The search for key terms in English and Persian resulted in 13 relevant literatures from 2011-2018. All of the studies demonstrated the positive effect of pharmacist interventions. The acceptance rate of nephrologists is over 60% (and sometimes as high as 84%) in different regions. This topic is relatively young and the specific collaboration of nephrologists and pharmacists has not been studied prior to 2011.

J Pharm Care 2018; 6(3-4): 68-71.

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Please cite this paper as:

Introduction

Geriatric patients are at greater risk of drug related problems due to increased prevalence of chronic diseases and drug consumption (1). This age group population is rising Iran and it’s predicted that there will be more than 25 million elderly people in Iran by 2050 (2, 3).

Geriatric patients consume an average of 7 drugs with 46% of them having at least one drug-drug interaction (DDIs) (4). Polypharmacy, potentially inappropriate medications and unnecessary drug duplications are also significant in geriatric patients (5-7). These issues have a great impact on the higher risk of adverse drug reactions (ADR) in elderly (8).

Pharmacists are a part of healthcare system that could effectively improve geriatric patients’ drug therapy. In a systematic review in the united states in 2013, to determine the role of pharmaceutical care led by pharmacists in elderly patients, the positive effect of pharmacists’ evolving role was discussed (9).

A randomized controlled study in Sweden on patients 80 years or older showed that, the presence of a pharmacist in a team-based care system, decreased the rate of mortality, hospitalization and drug-related readmissions (10).

DRP (drug related problems) can be minimized when pharmacists are involved in management of geriatric patients and give patient education. But at the same time, an important issue in the collaboration of pharmacists and physicians, is the acceptance of the pharmacist’s recommendations by other specialties. According to a study in Belgium, which examined the rate of physician’s acceptance and clinical relevance of pharmacist suggestion for elderly patients’ drug therapy, there were times that the acceptance was at a low rate. Different reasons were...
mentioned for this finding (11,12). Consistently on data in Australian journal of primary health pharmacists, suggestions were made by medical-doctor and pharmacist team for aged population (13).

Due to increased renal disorders in adults aged 70 years and older, the rate of mortality in this population is higher than other age groups (3). Kidney function affects the elimination of many drugs and dose adjustments are often needed in geriatrics. End stage renal disease caused by untreated CKD in older patients will increase fatality. The elderly with chronic or acute kidney disease could particularly benefit from pharmacist interventions (14). Therefore the present review was conducted to summarize the acceptance of nephrologists towards pharmacist recommendations.

Methods
Searches of PubMed and google scholar search engines were conducted to denominate literature from 2000 to 2016. The databases were searched for articles which studied the physician-pharmacists collaboration in geriatric patients with renal failure.

The following key terms were used: physician-pharmacist, physician acceptance, pharmacist intervention, elderly patients, nephrology, renal disorder, pharmacist assessment, geriatrics, physician pharmacist collaboration.

Articles were then assessed to identify the related studies. This review focuses on physicians’ acceptance of pharmacists’ suggestions in geriatric population with renal disorder as their primary problem.

Results
The search for key terms in English and Persian resulted in 13 relevant literatures from 2011-2018. The study designs were cross-sectional, prospective interventional, retrospective, randomized and interventional.

The healthcare setting of the studies were: 11 studies in hospitals and three studies were conducted in clinics and one in both a hospital and a nursing home.

The sample sizes ranged from 50 to 9096 patients. In all but one of the literatures, the patients were aged ≥65 years.

All of the studies demonstrated the positive effect of pharmacist interventions. In nine studies p values of ≤0.05 were reported and in 4 other researches, pharmacist interventions showed a positive impact. The physician acceptance rate ranged from 84-62.8%. Table 1 summarizes these studies.

Table 1. Characteristics of the literatures of the present review

<table>
<thead>
<tr>
<th>Year of Publication</th>
<th>Health care setting</th>
<th>Aim</th>
<th>Design</th>
<th>Sample size</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 (22)</td>
<td>Hospital</td>
<td>Role of clinical pharmacist in the therapeutic optimization in geriatrics</td>
<td>Prospective interventional study</td>
<td>67 patients</td>
<td>A total of 91 interventions made by pharmacists with a positive impact P&lt;0.05</td>
</tr>
<tr>
<td>2016 (23)</td>
<td>Hospital</td>
<td>Pharmacist comprehensive geriatrics assessment(PCGA)</td>
<td>Prospective observational study</td>
<td>539 patients</td>
<td>Rate of physician acceptance: 62.8% P&lt;0.05</td>
</tr>
<tr>
<td>2014 (24)</td>
<td>University hospital</td>
<td>Performance of a clinical decision support of clinical pharmacists on a geriatric ward</td>
<td>Prospective single-center, cohort study</td>
<td>50 patients</td>
<td>Rate of physician acceptance: 81.2%</td>
</tr>
<tr>
<td>2017 (12)</td>
<td>Hospital Nursing home</td>
<td>Pharmacist intervention at different rent levels of geriatrics healthcare</td>
<td>Prospective interventional</td>
<td>Nursing home: 8828 patients Hospital: 268 patients</td>
<td>Rate of physician acceptance in nursing home:84% in hospital:72% P&lt;0.001</td>
</tr>
<tr>
<td>2014 (15)</td>
<td>Hospital</td>
<td>to demonstrate that the intervention of a pharmacist intervention improves the outcome of renal action</td>
<td>Cross sectional</td>
<td>330</td>
<td>Rate of physician acceptance: 74% P&lt;0.05</td>
</tr>
<tr>
<td>2015 (25)</td>
<td>Hypertension clinics</td>
<td>The effectiveness of physician-pharmacists collaborative care in improving blood pressure control (PPCC)</td>
<td>Prospective</td>
<td>2232 patients</td>
<td>Rate of physician acceptance: 62.7% P&lt;0.05</td>
</tr>
</tbody>
</table>
The present data suggest that pharmacist interventions can have a positive impact on the patients’ outcomes and decrease their drug-related problems (15, 16). Several North American trials have shown the benefits of reviewing orders of physicians in community practice by pharmacists, these studies show that qualified pharmacists can guide clinical medication reviews for geriatrics. The pharmacist’s assessment also caused lower medication-related costs (17). Lower level of GFR in geriatric is because of their frailty or renal failure and there is a relevant relation between decreasing the GFR and hospitalization (18), since the function of kidney decrease in old patients nephrologists should consider the renal toxicity of drugs before prescription. Using different estimates except serum creatinine show better result than considering it as final indicator factor without others (19).

Physician-pharmacists collaborative actions in patients with renal disorder particularly for dose adjustment of drugs could influence the health condition. This monitoring programs and physician-pharmacists team works is more necessary advanced stage of CKD (15).

In an interventional study in 2014 on 797 aged patients, 78% of pharmacist’s recommendation accepted (20), in a nephrology unit of hospital, pharmacist actions showed cost-saving result (21).

In conclusion, pharmacists, especially newly graduated, might be concerned of the physicians’ acceptance towards their recommendations. They might be conservative or ignore contacting the physicians regarding DRPs. But the present review shows that the acceptance rate of nephrologists is over 60% (and sometimes as high as 84%) in different regions. This topic is relatively young and the specific collaboration of nephrologists and pharmacists has not been studied prior to 2011.

References