ABSTRACT

Background: The pharmacist community played a significant role in serving the nation for many years. The total number of registered pharmacists by the provincial pharmacy council is 23029. The role of pharmacists and their services is unrecognized by society. Aims: The intention of this clinical project is to create awareness among the population regarding the pharmacist’s role in improving the health of the patients and disease management. The aim is to highlight the importance of pharmacists among patients regarding their medication therapy and lifestyle modification to provide clear evidence of health gain. Methodology: It is a non-experimental based questionnaire study which is performed in community pharmacy and medical stores of Lahore, Islamabad, Gujranwala and Sargodha. Most of the people in Pakistan visit medical stores for the grant of medication without pharmacist advice in rural areas of Punjab Pakistan. But in big cities such as Lahore, Islamabad people visit pharmacies for grant of their medication and in some pharmacies pharmacist counsel the patient regarding their medication and visit a pharmacist are more satisfied and feel improvement in their condition. Results: Patients were divided in two group, one who visited medical store and other who went to pharmacy. We are interested in patients who are visiting the pharmacy and getting the various type of benefits from the presence of pharmacist. Conclusion Diabetes and hypertension are two major chronic diseases and spread widely across the world including Pakistan. In the management of diabetes and hypertension pharmacist interventions are beneficial and literature study provide evidence of it. People who visit a pharmacy also get economic benefit as pharmacist also offer alternatives which costs lesser.

Keywords: Diabetes, Hypertension, Interventions, Pharmacy, Community pharmacist.
INTRODUCTION

A healthcare facility that is provided through community pharmacy, emphasize on providing pharmaceutical services to a specific community. Typically, this service is delivered by a registered pharmacist who is performing their role in dispensing of prescription and sale of non-prescription medicine (1). Community pharmacist facilitates to improve community health by minimizing drug-related adverse events and promote better medication adherence. This in turn reduce unnecessary provider visits, hospital admissions and readmissions while promoting a strengthened integrated primary care delivery across the health system (2). In the last decade, global mortality percentage showed that approximately 36 million deaths out of the estimated 57 million deaths are due to non-communicable diseases (3).

Diabetes mellitus, characterized by hyperglycemia is considered to cause impaired insulin secretion either with or without insulin resistance. The prevalence of type 2 diabetes varies in different populations, being six times more common in South Asians origin compared with that of Northern European (4). The incidence of diabetes is increasing worldwide, for unknown reasons. Hypoglycemia, hyperglycemia causing diabetic ketoacidosis and hyperosmolar hyperglycemic state constitute acute emergencies associated with diabetes (5).

A condition where blood pressure is elevated to an extent that clinical benefit is obtained from blood pressure lowering. By controlling blood pressure can reduce heart failure by over 50%, strokes by 35-40% and myocardial infarction by 20-25%. The secondary risk factors are obesity, high blood pressure, elevated blood glucose level and blood lipid level that can lead to stroke, cardiac arrest, heart failure, and other complications (6).

METHODOLOGY

The basic method we adopted in collection of data is non-experimental, rather it is a survey-based study in 2021 with the approval of ethical committee with reference no JIPS/SPS/2022-015 for the duration of ninety day. We were restricted to province of Punjab, Pakistan in order to produce stable results. A sample size of 130-150 diabetic and hypertension patients were selected from different areas of Punjab (Lahore, Gujranwala, and Sargodha) and some other rural areas through their proper consent. Our collective approach includes a comprehensive questionnaire consisting of parameters such as how many people visited pharmacy and medical store for grant...
of medication, sociodemographic data, life style modifications, diet changes, adherence to therapy, regular monitoring of BP and blood sugar level, satisfaction of patients and improvement in health. We visited total 25 community pharmacies and 25 medical stores for the conduct of our research program. The number of patients with diabetes and hypertension are 75 (total 150). We also visit 23 other pharmacists to produce stable and reliable results.

**Inclusion criteria**

People who visited a pharmacy and avail the pharmacist services for grant of medication were included in study.

**Exclusion criteria**

Those medical stores were excluded from the study where no pharmacists were appointed.

**Data analysis**

The data was collected through the questionnaire and the data was compiled on the excel sheet. The proper analysis was conducted and the results of the demographic data were described in the form of the percentage and bar charts.

**RESULTS**

The results of the study were described through the help of figure I and Table I. The result of the demographic characteristics of patients included in the study is shown in figure I. Figure I showed the comparison of two group’s patients one who visited pharmacy and who visited medical store. According to the bar chart; out of 150 patients, 52% patients visited a pharmacy for grant of medication and 48% visited a medical store. Most of the patients who visited a medical store were from the rural areas.

The Table I focused on providing the details of patient getting various services of pharmacy. The table described that total number of patients who get advantage from pharmacist intervention is 10.2% and 8.9% who get advice on their lifestyle and diet changes for betterment of their health. Satisfaction ratio of services and interventions provided by pharmacist is14.1%.
Figure 1. Demographic description of patients

Table 1. Outcomes of the patients

<table>
<thead>
<tr>
<th>Category in which Patients gets benefits in pharmacy</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get medicines according to the prescription</td>
<td>90</td>
</tr>
<tr>
<td>Offered alternatives</td>
<td>5</td>
</tr>
<tr>
<td>Get counseling</td>
<td>14</td>
</tr>
<tr>
<td>Advised on life style modification</td>
<td>8.9</td>
</tr>
<tr>
<td>Advised on diet</td>
<td>8.9</td>
</tr>
<tr>
<td>Adherence therapy</td>
<td>28</td>
</tr>
<tr>
<td>Pharmacist advised</td>
<td>10.2</td>
</tr>
<tr>
<td>Satisfies with advised</td>
<td>13</td>
</tr>
</tbody>
</table>

DISCUSSION

In this project we are mainly focused on the benefits of pharmacist’s interventions regarding public health and tried to produce awareness regarding effectiveness of pharmacist’s interventions in Pakistan. After the interpretation of results, we concluded that most of the people...
in our society visited medical stores rather than pharmacies. Most of the pharmacist has managerial role at pharmacies rather than counselling of patients that is beneficial effects of pharmacists’ interventions at community pharmacy.

In community pharmacies where pharmacists actively play their role and counsel patients regarding their disease management and counseling has shown beneficial effects as evident by public answers in ‘yes’ where we ask them whether they get benefit or see improvement in their health condition by seeking pharmacist advice and acting upon it. Studies had shown that Pharmacist interventions alone or in collaboration with other health care professionals improve BP and diabetes management. Nevertheless, pharmacists’ intervention had differential effects on BP and diabetes from very large to modest or no effect. Determining the most efficient, cost effective, and least time consuming intervention should be addressed with further research (7).

Our research show that patients who visited pharmacy get economic benefits as pharmacist offers alternative that cost less than the prescribed medicine without any decrease in efficacy of prescribed treatment. But this intervention is least and hardly offered by pharmacist because most of the patient’s demand for the same brand as prescribed by their GP and also they don’t have awareness regarding pharmacist’s knowledge related to drugs and even pharmacy profession. As literacy rate is low in Pakistan, most of the people do not acknowledge pharmacist’s counselling or interventions and also pharmacists do not bother to waste their time on counselling of such patients but who take and act upon pharmacist advice feel a clear improvement in their health condition (8).

Pharmacist interventions regarding life style modifications and dietary changes could be beneficial in improving the condition of diabetic and hypertensive patients but our study suggest that there is lack of such interventions in our country. Pharmacist only counsel patient about life style modification and dietary changes and some other interventions only on patient’s demand. As compared to the developing countries particularly Pakistan, developed countries studies show that with pharmacist’s interventions at community pharmacies reduce the risk of CVD and other complications associated with hypertension and diabetes. On many occasions the community pharmacist interventions could have prevented a visit to or by the patient’s GP (9).
The real life practice of community pharmacy presents an interesting chance for remitting interventions to reduce risk factors associated with CVD, but a number of factors needed practically for implementation of these interventions, ponders on consideration of merit. On a larger scale, the review of studies reported in enactment of training and reimbursement of pharmacists for delivering interventions (10). These studies however potentially motivate the caregiver to deliver the duties consistently and faithfully. Resultantly, here the lack of time, specified training and reimbursement act as major barriers to the delivery of pharmaceutical care, which raises the question of proportions of patients willing to pay for these services (11).

More so, the interventions require the health status to be regularly monitored by the pharmacist through blood pressure and/or blood glucose monitoring. The improvement in health is not only linked to the pharmacist’s interventions but also patient’s adherence to therapy as is listed in studies too.

CONCLUSION

In Pakistan current scenario of pharmacy profession is evolving, the health care system that recognize the pharmacist to promote the interaction between pharmacist and public. With the lack of government interest towards health care system due to which availability of pharmacist is not assure that causes most of medicine-related issues. If we guarantee the involvement of skillful and authoritative pharmacists in health care system that improve the appropriate use of medicine, eliminate medication errors. Studies revealed that we assured the Patient-centered intervention by education regarding disease state, adherence support, counselling and regular follow-up. Our study shows that the pharmacist’s interventions play a significant role in the reduction of associated risks with hypertension and diabetes.

Authors’ contributions

AS conceptualized and designed the study. AS, MG, MG and TM collected the data, analyzed and interpreted the results and wrote final draft. All the authors have contributed equally and read final version of the article.

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DECLARATIONS

Ethics approval
Not applicable.

Competing interests
The authors declare that they have no competing interests.

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