Factors Affecting the Compliance with Insulin use in Diabetic Patients of Teriary Care Hospitals of Lahore

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Abstract

Adherence to insulin treatment is uneven and is contributed by shortage of insulin, unavailability, unaffordability, patient misbelieves and social criticism which results in poor glycemic control to access the effect of these factors on the compliance with insulin therapy.
The population of the study included all the Diabetic patients who were dependent upon insulin. The number of patients was selected to be 100 from tertiary care hospitals of Lahore including both public and private sector hospitals in September to December in 2013. Data was gathered by visiting the Hospitals personally one by one. The questionnaires were filled by interviewing the outdoor patients of hospitals. The purpose of personally visiting the Hospitals was to interview the patients accurately and according to predesigned method.
Patients who were guided by healthcare professionals for insulin administration and counseled   show better compliance than other uncounseled patients. Out of 100 patients the no. of male and female patients was 61% and 39% respectively. The frequency of patients guided by the pharmacist was 17%, physician 57%, Nurse 23% and Self 3%. Diabetic patients revealed that their information on insulin use was poor. Their insulin injecting   skills were amateur. The patients face problems while searching for information from health care professionals and they were interested in improving their information regarding insulin use by involving the health care professionals.

Keywords: Diabetes Mellitus, insulin, compliance, Questionnaire.

INTRODUCTION

Diabetes mellitus is a metabolic disorder caused by absolute deficiency of insulin, decrease in insulin section or insensitivity of insulin [1]. Diabetes management includes drug therapy, life style, diet modifications and health education [2,4,12]. Recently there has been great interest in prevention of diabetes. The management of type 1 and type 2 diabetes mellitus has improved because of remarkable advancement in insulin types over the years [5]. The severity and occurrence of micro and macro vascular complication can be minimized or delayed if glycemic control is appropriate [3]. Factors leading to optimum diabetes management include age, complexity of treatment, duration of disease, depression, and psychosocial issues [13]. some people have wrong believes like insulin is addictive or damages the organs or used at last stage of disease[5]. several barriers to use of insulin have been revealed e.g. injection phobia, hypoglycemic events and burden of injections, timing in relation to meals [10]. poor compliance is an important issue and adherence rates to chronic diseases are not appreciable[7]. In Pakistan, allocated budget for health facilities is low and is unable to meet the minimum requirement. This is a daily occurrence in our out patients where patients avoid insulin due to their wrong believes like insulin damages organs, make a person addictive or it is the last stage of disease regardless of repeatedly educating them concerning benefits of insulin and long term cost effectiveness if complications can be reduced with better glycemic control [3]. Review of patient data of 100 patients of tertiary care hospitals of Lahore revealed that patients who were guided by health care professionals about insulin administration and counseled properly show better compliance with insulin use. Poor glycemic control in insulin dependent diabetes patients is associated with failure to take insulin treatment and that hospital admission for complications related to diabetes is related with poor adherence to insulin therapy.

MATERIALS AND METHODS

The study was conducted in three phases. In the first phase, an extensive search and a broad and comprehensive review of literature was conducted. To give the relevant literature published, printed and electronic information available in journal articles and theses etc. is consulted. General search engines like Google were used. Along with this several HEC databases were also used to retrieve the relevant literature like Science Direct. A widely accessed database in the medical field Pub med (Medline) was also consulted.

The questionnaire was designed and finalized by a pharmacy students, and validated by pharmacists and diabetologists and included   all the parameters of interest.[7] The pharmacy student filled up the questionnaires by putting questions to each patient, then the data were discussed with the diabetologists for validation. The questionnaire was reviewed by the supervisor before distribution among Diabetes patients.

Questionnaire consisted of 3 sections. The first section consisted of demographic information like name, age, sex etc. The second section consisted of 22 close ended questions with 2 options against each statement (yes or no). The 3rd section consisted of 3 open ended questions.

The population of the study included all the Diabetic patients who were dependent upon insulin. The number of patients was selected to be 100 from tertiary care hospitals of Lahore including both public and private sector hospitals. These hospitals were Jinnah, Sheikh Zaid, Shalimar, Services, General, Mayo Hospitals and Wilshire clinic.

Data was gathered by visiting the Hospitals personally one by one. The group members helped in collecting the data. The questionnaires were filled by interviewing the outdoor patients of above listed hospitals. The purpose of personally visiting the Hospitals was to interview the patients accurately and according to predesigned method.

RESULTS

The study sample consisted of both genders. After compilation of data and applying stats, it was found that there were greater no of males 59% than females which were 39%. The bar graph attached indicates the results. (Fig 1)
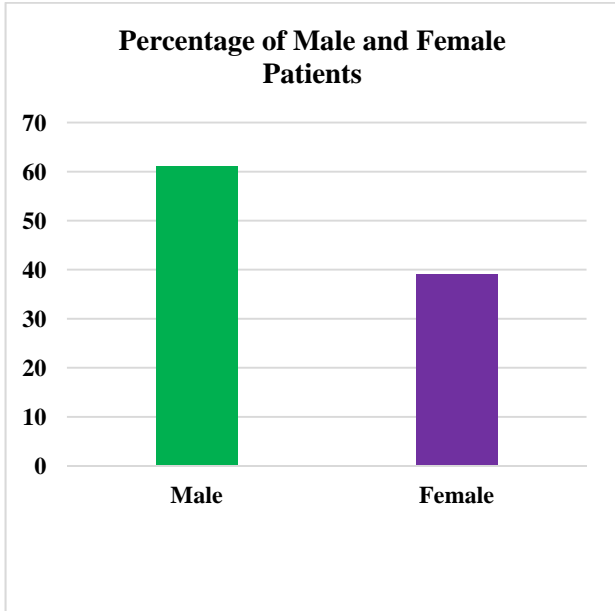
Percentage of Male and Female Patients

Fig 1: %age of male and females in targeted population

The frequencies of patients were greater in government hospitals than private or semi government institutions. It was found that Mayo, Jinnah and General hospital compensated more than half patients of total targeted population studied in that area. The bar graph attached indicates the results. (Fig 2)
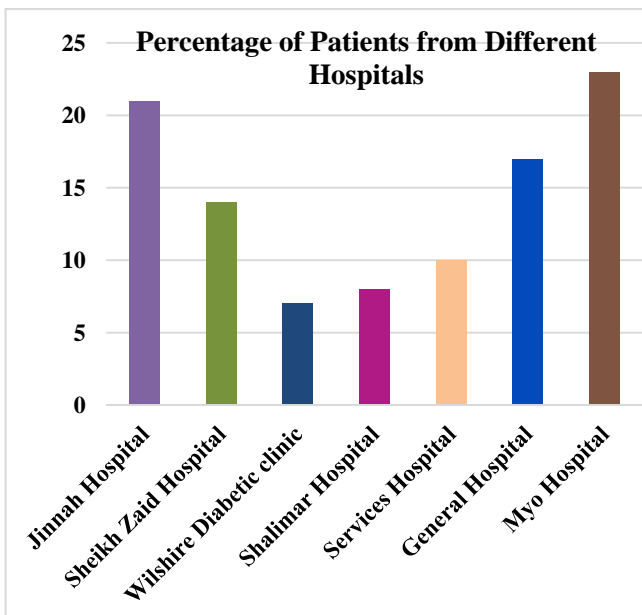
Percentage of Patients from Different Hospitals

Fig 2: %ages of patients from different

Hospitals

In case of results compiled against counseling parameter that, who guided the patients about diabetic therapy more than other health care professionals, revealed that there were physicians who counseled the patients than a pharmacist in targeted hospitals including both private and public institutions. 57% of patients were counseled by the physicians, 17% by a pharmacist, 23% by nurse and those patients who did not get any guidance from any health care professional were 3%. The bar graph attached indicates the results. (Fig 3)
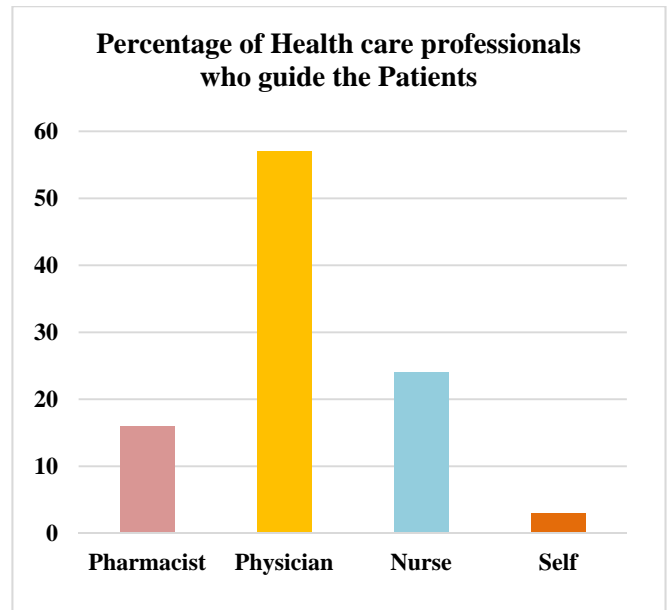
Percentage of Health care professionals who guide the Patients

Fig 3: %age of Different health care professionals who guide patients

Out of 100 patients from different tertiary care hospitals including the private and public sector hospitals, there were 60% of patients that faced the problems of insulin availability and only 40% of patients did not have any problem regarding insulin availability. The pie chart attached indicates the results. (Fig 4)
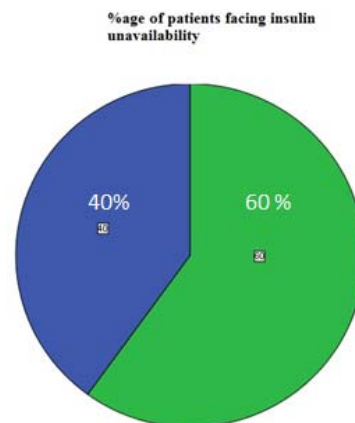
%age of patients facing insulin unavailability

Fig 4: %age of patients facing insulin availability

Out of 100 patients from different tertiary care hospitals including the private and public sector hospitals, there were only 42% of patients that found the social support from their society and family members for their insulin therapy and 58% of patients did not get any social support from their surroundings. The pie chart attached indicates the results. (Fig 5)
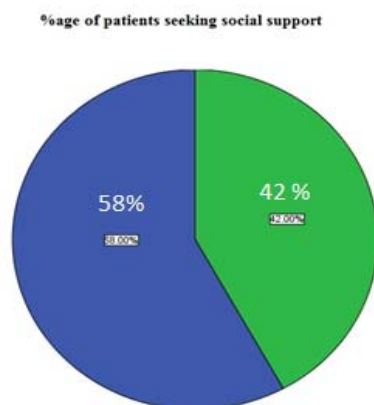
%age of patients seeking social support

Fig 5: %age of patients seeking social support

DISCUSSION:

The percentage of patients considering their gender, visited from the different tertiary care hospitals of Lahore was more in no. of males found to be 61% than females which were just 39%. The graph attached shows the gender distribution (fig 1). This indicated that greater no. of male patients were diabetic who visited the hospitals for their insulin therapy. The prevalence of diabetes was more among males in that area.

In case of different hospitals and diabetic clinic visited, the frequencies of patients were greater in government hospitals than private or semi government. The graph (fig 2) showed that Mayo, Jinnah and General hospitals encircles most of diabetic population of Lahore. Sheikh Zaid, Services and Shalimar hospitals and Wilshire diabetic clinic bear less no. of patients because they are semi government or private. This indicates that most of population of Lahore cannot afford insulin and hence are dependent upon government hospitals for their insulin therapy.

The main focus of our study was to check the patients guided by the health care professionals regarding insulin therapy. Generally, and it should be, the duty of the pharmacist to council or guide the patients for their drugs. The data revealed that the percentage of physicians and even nurses whom role is to prescribe and administer respectively, guided the patients more than the pharmacists. But this thing is not surprising in our community where the field of pharmacists is not so much established. This showed the lack of pharmacists in their relevant area either in performance or their number. The general state of need demands the attention of pharmacist loyalty to their work. Lack of number of pharmacists in hospitals is also another trouble for patients to get relevant information for their

drugs and therapy. Appreciation went to the physicians and nurses. The matter is not to criticize the pharmacists but to focus on the need of pharmacists in their community to perform their job. Patient focus is the main concept of pharmaceutical care provided to the patients for their therapy and thus can only be put up by pharmacy professionals. (fig 3)

The cost of insulin to patients varies greatly between countries. This leads to a critical problem especially in low income countries where the price of insulin is unsubsidized and the patient has to pay the full price over the years of his treatment. This condition in Pakistan where the income of a person is below average to afford insulin, pushes the patients to find their way to government hospitals for their necessity. But the government is unable to uplift the burden of diabetic patients for their insulin treatment that leads to insulin unavailability at government hospitals. The results exposed agrees that 60% of patients were encountered with the problem of insulin availability and only 40% of patients found them in bliss of insulin availability. (fig 4)

Adherence to insulin therapy requires the patient to bind off it with the social support especially from the family. Social support provides patients with hands-on help and can buffer the stresses of treatment. There was greater no. of patients that did not receive social support for their insulin therapy. This was fundamentally due to behavior and thinking of people that reasoned odd about ill person. The patient should be considered and provided social support for its insulin therapy. (fig 5)

CONCLUSION

The major findings of this research suggest that:

1. Diabetic patients revealed that their information on insulin use was poor.
2. Their insulin injecting skills were amateur.
3. The highest level of frequency came from the question; 'are you serious about insulin therapy?'
4. The lowest level of frequency came from the question 'do you smoke?'
5. The patients face problems while searching for information from health care professionals.
6. They face difficulties in evaluating the guidance on insulin therapy.
7. These patients were interested in improving their information regarding insulin use by involving the health care professionals.

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