A Study on Knowledge, Attitude and Practice (KAP) in Diabetic Patients Attending Endocrinology OPD at a Tertiary Care Hospital

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Abstract

The growing prevalence of metabolic disorders such as diabetes mellitus (DM) along with world’s ageing population has increased the burden on health care systems. Knowledge, attitude and practice (KAP) in regard to disease, medications and lifestyle plays an important role in achieving appropriate glycemic control in patients with DM. This hospital based prospective observational study was undertaken with the aim to analyze and evaluate KAP in diabetic patients and to provide relevant patient counselling. The study was carried out in diabetic patients attending Endocrinology out-patient department of M. S. Ramaiah Hospitals, Bengaluru for a period of six months. The KAP on disease, drugs, complication and lifestyle was assessed in 70 outpatients using a predesigned questionnaire. Descriptive statistics were applied to analyze data using SPSS software version 20.0 and Microsoft excel. The assessment of knowledge in drugs, disease and lifestyle was found to be good. The knowledge in regard to complication was found to be moderate (57%) emphasizing on need for patient counseling. The role of clinical pharmacist in educating patients regarding drugs, disease prognosis and complications helps in overall disease management and improving quality of life.

Key Words: Diabetes Mellitus, KAP, Patient Counselling

1. INTRODUCTION

American Diabetes Association (ADA) defines diabetes as a group of metabolic disorders leading to defects in insulin secretion and action of insulin or both. Diabetes mellitus (DM) is classified into two types namely; type 1 (T1DM) and type 2 diabetes mellitus (T2DM). T1DM is characterized by lack of insulin production while T2DM is characterized by inadequate insulin secretion or improper insulin utilization [1].

The prevalence of DM is rapidly rising globally at a threatening rate. According to world health organization in the year 2011, 336 million individuals globally were diagnosed to have diabetes, among which 90% of individuals had T2DM. This value is expected to rise to 380 million individuals by the year 2025 [2]. In India, according to Indian Council of Medical Research-Indian Diabetes (ICMR- INDIAB) study conducted in 2011, 62.4 million people were diagnosed with diabetes while 77 million people were prediabetic [3].

Few attributable reasons for DM are urbanisation, lack of physical activities, sedentary life style and obesity [4]. If not all but most of the factors are modifiable through proper lifestyle practices, drug taking behavior and screening for complications. In view of this, ADA guidelines stipulates the importance of strict glycemic control, a HbA1C (glycosylated haemoglobin) levels of less than 7% in diabetic patients in order to minimise the incidence of both micro and macro vascular complications [5]. Inadequate knowledge about the disease, prognosis, complications and treatment results in poor glycemic control which in turn leads to increase in morbidity [6]. This increases the need for proper education regarding alterations in lifestyle (exercise and food), medication adherence, regular screening in patients suffering from DM [7-8]. The present study was carried to assess knowledge, attitude and practice in diabetic patients regarding disease, drugs and life style.

2. METHODOLOGY

This hospital based prospective observational study was conducted at Endocrinology Out-Patient Department (OPD) of M. S. Ramaiah Hospitals, Bengaluru for a period of 6 months from November 2015 to April 2016. The complete study was done in accordance with the permission granted by institutional ethics committee. Patients of either gender suffering from diabetes mellitus, attending endocrinology OPD were included in this study. Patients treated on inpatient basis were excluded from the study and who were uncooperative as well.

The subjects who satisfied the inclusion criteria were enrolled for study. The details regarding patient’s demographics, diabetes complications, blood glucose levels and HbA1C levels were collected from patient’s case notes, medication charts and lab reports. Medication history interview was also conducted among the study subjects. The study subjects were assessed for their knowledge, attitude and practice towards disease, drugs and lifestyle using predesigned questionnaire. The questionnaire consisted of 25 questions to assess the knowledge regarding general awareness on disease, drugs, complications, treatment and lifestyle. Four questions related to attitude regarding the usefulness of influencing/modifying lifestyle factors and investigation in the management of disease. Practice had 10 questions regarding life style and dietary habits, monitoring of blood glucose levels,
drug compliance, details of eye and foot examination. The subjects were provided with patient counselling & patient information leaflet (PIL) after assessment of their KAP. Microsoft Office Professional Plus 2013™ (Word and Excel) have been used to generate tables, charts, bar diagrams and for data analysis.

3. RESULTS AND DISCUSSION

A total of 70 patients meeting the inclusion criterion were enrolled into the study. Among the study population, 43 (61.43%) were males and 27 (38.57%) were females.

The mean age of our study population was 54.09 ± 12.44, similar to the study conducted by Talib et al [9] where mean age was found to be 53.10 ± 9.50. The study subjects were found to have various comorbid conditions among which hypertension (54.21%) followed by hypothyroidism (14.70%) and IHD (13.98%) were the main disorders. The mean duration of history of T2DM in our study samples were found to be 8.8 ± 6.7 which is almost similar to the study by Truscott et al [10]. Thirty three (47.14 %) patients of the study population were found to be associated with one or more of the diabetic complications. Among the different documented complications, diabetic foot ulcer (45.71%) was of greater occurrence followed by diabetic nephropathy (20%), diabetic retinopathy (18.57%) and diabetic neuropathy (15.71%) with no significant association with the gender difference (P>0.05).

3.1 Knowledge

Patient’s knowledge related to disease (Fig. 1) was assessed. Majority (58%) of patients had good knowledge while 39% of patients had moderate and 3% had poor knowledge.

The assessment of knowledge on drugs showed that 77% of patients had good knowledge while no patient had poor knowledge which reflects the better knowledge seeking behaviour in our study subjects compared to a study conducted by Okonta et al [11] where majority had poor knowledge (Fig. 2). These differences in knowledge may be due to variations in the literacy of the study patients, the counselling received by them and availability of information on diabetes.

Knowledge on life style assessment showed that 17% of study population had poor knowledge which necessitates the need for imparting patient counselling (Fig. 3). This results were similar to the outcomes obtained from the study piloted [12].

The knowledge related to complication was found to be low when compared with drugs and life style in our study population. 57% of patients had moderate and 6% had poor knowledge on diabetes associated complications (Table.1). The patients were unaware of importance of regular foot-care and hypoglycemic symptoms in our study which was in consistent with the study conducted [13].

3.2 Attitude

Even though 38 (54%) patients in our study showed a positive attitude towards disease, treatment and life style, nearly half (46 %) of the patients had a negative attitude which may influence and decrease their quality of life (Table 2). This reduction in attitude necessitates either health care professionals or clinical pharmacist to spend ample amount of time to motivate and explain regarding the relation between positive attitude and prognosis of the disease.

![Fig. 1 Knowledge on disease in study population](image1)

![Fig. 2 Knowledge of study population related to drugs](image2)

![Fig. 3 Knowledge of study population related to lifestyle](image3)
Table 1. Knowledge of study population related to complication

<table>
<thead>
<tr>
<th>SCORE</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOOD (4-5)</td>
<td>26</td>
<td>37</td>
</tr>
<tr>
<td>MODERATE (2-3)</td>
<td>40</td>
<td>57</td>
</tr>
<tr>
<td>POOR (0-1)</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>70</td>
<td>100</td>
</tr>
</tbody>
</table>

The study conducted by Okonta et al [9] (51.6%), was in consistent with our results which can be transformed into healthy lifestyle practices.

Table 2. Pattern of attitude towards disease, drugs and lifestyle

<table>
<thead>
<tr>
<th>ATTITUDE</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSITIVE</td>
<td>38</td>
<td>54</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>32</td>
<td>46</td>
</tr>
<tr>
<td>TOTAL</td>
<td>70</td>
<td>100</td>
</tr>
</tbody>
</table>

3.3 Practice
Although the assessment on disease (54%) and life style (63%) related practice in patients showed to be a good practice, 42% and 30% related to disease and life style practice respectively were moderate.

Practice assessments were done according to disease related practice and lifestyle related practice and overall a good-practice trend was observed. Merely 4% fall into ‘poor practice’ criterion, related to disease. Same trend was observed in lifestyle related practice (Table 3). Our study findings were in contrast with the study carried out by Okonta et al [9], where 91.7% patients had a poor practice. Approaches to modify practice related to disease and lifestyle include providing diabetes leaflets as well as direct education via patient counselling which help in control of DM.

A healthy lifestyle modifications should be promoted, integrated with self-care as part of diabetes education in all treatment amenities [14].

4. CONCLUSION
DM, a metabolic disease affecting majority of population necessitates patient education for better management of the disease. The role of clinical pharmacist in this aspect is substantial as it improves the knowledge and attitude towards the disease and its prognosis. In our study, the knowledge related to complication was observed to be low which was addressed during counselling session. There is an enormous need for creating of awareness among diabetic patients regarding early detection of diabetic complications. The importance of regular eye and foot examination and routine blood glucose level monitoring must be focused in educational programs.

The availability of good knowledge, right attitude and proper practice in diabetic patients plays an important role in achieving good glycemic control and prevention of disease complications.

"An ounce of prevention is worth a pound of cure”

Table 3. Practice of study population related to disease

<table>
<thead>
<tr>
<th>Disease</th>
<th>Lifestyle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCORE</td>
<td>N</td>
</tr>
<tr>
<td>GOOD (4-5)</td>
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<tr>
<td>MODERATE (2-3)</td>
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<tr>
<td>POOR (0-1)</td>
<td>03</td>
</tr>
<tr>
<td>TOTAL</td>
<td>70</td>
</tr>
</tbody>
</table>

REFERENCES
Outcomes in Diabetes and Hypertensive Patients, 


