

Insulin Acceptance among Type 2 Diabetes Mellitus Patients

Amarjit Singh Vij¹, Kusum Bali², Tarundeep Singh Marwaha³, Shivani Sareen⁴

¹ Professor, Department of Medicine, Punjab Institute of Medical Sciences, Jalandhar, India

² Associate Professor, Department of Medicine, Punjab Institute of Medical Sciences, Jalandhar, India

³ Assistant Professor, Department of Medicine, Punjab Institute of Medical Sciences, Jalandhar, India

⁴ Intern, Pharma. D., Department of Medicine, Punjab Institute of Medical Sciences, Jalandhar, India

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*Corresponding author

Kusum Bali

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Abstract: Diabetes mellitus is a major health concern of the developing nations and accounts for the 5% deaths around the world annually. Insulin is refused by many patients of diabetes mellitus even when they require this modality of treatment. However, some patients accept insulin eventually. This study explores the factors determining insulin therapy acceptance and the initial barriers to its use among the type 2 diabetes mellitus (T2DM) patients. In this cross-sectional qualitative study, one hundred and fifty four patients of T2DM attending the Medicine outdoor of a tertiary care hospital were included. The patients were interviewed as per a semi structured questionnaire on the Likert's scale and the collected data was analysed statistically. One hundred and fifty-four patients were included in this study: 80 (51.9%) female and 74 (48.1%) male. 43.5% patients considered that insulin was a drug of last resort. Among all patients, 23.4% thought that insulin lowered blood glucose levels to an extreme degree and 53.9% disagreed. The patients thought that self-injection was difficult (59.1%), required someone else to administer the injection (20.8%), insulin injection was painful (48.7%). 81.8% stated that their consultants had sufficiently informed them about the necessity of insulin. Our most significant finding is that a lack of adequate information relating to insulin appears to be the major factor behind the patients' refusal of insulin treatment. The fact that patients consider insulin treatment as a final solution to DM could be related to resistance to the initiation of insulin therapy. The diabetic patients' awareness of insulin and education of diabetes treatment are crucial in the treatment and follow-up of patients with diabetes mellitus.

Keywords: Type 2 diabetes mellitus; Insulin.

INTRODUCTION

Although oral antidiabetic drugs (OADs) remain the mainstay in the treatment of type 2 diabetes mellitus (T2DM), insulin therapy becomes inevitable in a substantial number of patients as the disease progresses. According to recent estimates, roughly 4 of 10 patients with T2DM in India are using insulin alone or in combination with OADs at any given point of time.¹ Insulin remains the cornerstone of therapy in a substantial number of patients with type 2 diabetes mellitus (T2DM). Inadequate knowledge regarding insulin usage is likely to influence its acceptance and adherence, and outcome of therapy, underscoring great need to investigate knowledge, attitude, and practice of insulin usage in patients with T2DM.² The primary objective of this study was to assess the various factors which influence the acceptance of insulin among the T2DM patients.

MATERIAL AND METHODS

This qualitative study was conducted in the Medicine department of Punjab Institute of Medical Sciences, Jalandhar. The patients of T2DM who visit routinely the Medicine outdoor and now need insulin were considered to be included in this study. The T2DM patients eligible for this study first met their respective consultants. Then they were sent to a Pharma D intern posted in our department. A written informed consent was taken from the patients enrolled in this study. She conducted face to face interview with the patients to know their views about insulin usage as per a semi-structured questionnaire. The questions were regarding acceptance of insulin by the patients and the different factors which could affect the insulin use by the patients. The data was entered in the Microsoft Excel sheet. The collected data was analysed statistically.

RESULTS

There were total one hundred and fifty-four patients out of which 80 (51.9%) female and 74(48.1%) male. The age range of the patients was 18 to 65 years and average age was 52.4 ± 10.4 years. The socio-

demographic features of the patients are given in Table 1. Majority of the patients (41.6%) belonged to BMI category of ≥ 25 and the maximum patients (52.6%) were rural. Most of the patients (27.3%) were illiterate.

Table-1: Socio-demographic features of the patients (n=154)

n (%)	
Gender	
Male	74 (48.1)
Female	80 (51.9)
BMI Categories	
< 18	12 (7.8)
18 – 22.9	35 (22.7)
23 – 24.9	43 (27.9)
≥ 25	64 (41.6)
Background	
Urban	73 (47.4)
Rural	81 (52.6)
Educational Status	
Illiterate	42 (27.3)
Primary	36 (23.4)
Secondary	23 (14.9)
High	28 (18.2)
University	25 (16.2)
Marital status	
Married	123 (79.9)
Single	31 (20.1)

Table-2: Patients’ responses to the questions asked in interview

Questions	Agree		No idea		Disagree			
	N	%	N	%	n	%		
1. Insulin injection is painful	75	48.7	37	24.0	42	27.3		
2. The self-injection of insulin is difficult	91	59.1	27	17.5	36	23.4		
3. I have a relative to inject insulin	32	20.8	22	14.3	100	64.9		
4. Doctor has convinced me of necessity of insulin	126	81.8	14	9.1	14	9.1		
5. Insulin is the last option in the diabetes treatment	67	43.5	10	6.5	77	50		
6. Insulin worsens the diabetes	18	11.7	32	20.7	104	67.5		
7. Insulin leads to weight gain	106	68.8	28	18.1	20	12.9		
8. Insulin lowers the blood glucose too much	36	23.4	35	22.7	83	53.9		
9. Insulin prevents the complications of diabetes	75	48.7	17	11.0	62	40.3		
10. Insulin has to be continued for ever	37	24.0	18	11.7	99	64.3		

Table 2 shows the patients’ responses to the questions asked on the Likert’s scale. 48.7% patients thought that insulin injection was painful, 59.1% answered self-injection was difficult, and 64.9% disagreed that someone is there to administer the injection. 81.8% patients stated that their family physicians convinced them about the need of insulin. 43.5% patients considered that insulin was a drug of last resort. Insulin worsens diabetes was agreed by 11.7%

and 68.8% agreed that insulin increases weight gain. Among all patients, 23.4% feared that insulin lowers blood glucose too much while 53.9% disagreed. Insulin prevents diabetes complications were disagreed by 40.3% and only 24% agreed that it has to be continued for ever.

DISCUSSION

Progressive hyperglycaemia is a characteristic of type 2 diabetes mellitus (T2DM) that poses a challenge to maintaining optimal glycaemic control. Achieving glycaemic control early in the course of disease can minimize or prevent serious complications. Most patients with T2DM eventually require insulin replacement therapy to attain and preserve satisfactory glucose control. For decades, the use of insulin to address the primary defect of T2DM has been a cornerstone of diabetes therapy. Insulin is indicated for patients with T2DM presenting with clinically significant hyperglycaemia, and it is mandatory for patients exhibiting signs of catabolism. Insulin should be considered for patients in whom hyperglycaemia persists despite attempts to control the condition through diet and exercise modifications and the use of noninsulin therapies.

This study was conducted in the Medicine Department of Punjab Institute of Medical Sciences, Jalandhar to explore the factors affecting the acceptance of insulin therapy and the initial barriers to its use among the type 2 diabetes mellitus (T2DM) patients. We asked closed questions with answer options on the Likert's scale. In general, there is a lack of knowledge and prevalence of many notions related to insulin therapy. Nearly half of the diabetic patients require insulin within 6 years of diagnosis[4,4]. It is imperative that these patients must start insulin in order to achieve the desired glycaemic values. Insulin not only maintains the blood glucose level within range but also prevents multiple complications arising due to hyperglycaemia. Different studies have shown the long term benefits of the insulin therapy[5,6].

Maximum patients (81.8%) agreed that their doctor has convinced them of need of insulin therapy for them and minimum of them (11.7%) answered that insulin worsens the diabetes. We observed an indifferent attitude of many patients toward initiating insulin thereby resulting not only rise in HbA1c but also in many complications like peripheral neuropathy and diabetic nephropathy. Many factors like patient hesitation, misconceptions, lack of knowledge of insulin and belief in alternative therapies contribute to prejudice against insulin.

About half of the patients reported that injecting insulin was painful and self-injection of insulin was difficult. Two third of the patients believed that insulin causes weight gain. The lack of adequate information and frequent misunderstandings contribute to an unwillingness to take insulin. If insulin is essential at any time, it is imperative to change such attitudes, especially in patients with a poor education. Such patients need to be educated on the progressive nature

of diabetes, the role played by insulin, and the mechanism of insulin action.

CONCLUSION

The belief that insulin is a last resort is a major barrier to acceptance of insulin treatment. Empowering patients to be actively involved in the management of their diabetes can improve glycaemic control through education, communication, and the use of patient-friendly insulin regimens. The physician plays an important role in helping patients manage their disease by encouraging initiation of treatment with insulin.

Family physician attitude, difficulty in insulin injection, or the presence or absence of a family member to inject insulin, are not important barriers to insulin treatment. The need to explore patient attitude and behaviour is obvious and crucial for insulin initiation particularly in patients who have been recently prescribed insulin.

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