



INSULIN THERAPY;

INCREASING MORBIDITY AND TREND OF REFUSAL AMONG DIABETES MELLITUS TYPE 2 PATIENTS IN PAKISTAN. HEALTHCARE PROVIDER'S PERSPECTIVE

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ABSTRACT... Background: The increasing morbidity of diabetes mellitus in Pakistan, and insulin refusal is one of the main challenges in managing diabetic patients who have suboptimal control. **Objectives:** The aim of present study was to determine the trend of insulin therapy refusal among diabetes mellitus type 2 patients in Pakistan from the healthcare provider's perspective and to find out the reasons behind this refusal. **Design:** Quantitative research study. **Place and duration of study:** The clinics of general practitioner & consultants from different locations of Karachi to cover all socio-economic groups of society to avoid any biasness in selection. The duration of study is from August 2013 to February 2014. **Methods:** Four hundred and fifty healthcare providers were approached with convenient random sampling from clinics and hospital located in Karachi. The pre-tested and validated questionnaire was used to collect data. Data were authorized following double entry as given the code number of all filled questionnaire and then data was first input in the excel sheet and then analyzed further on Statistical Package for Social Sciences (SPSS). **Results:** The 4.8% doctor observed that patients like to use insulin while 95.2% doctor observed that patients did not like to use insulin and insist to prescribe oral anti diabetic drug instead of insulin. 61.9% doctor believe that their patient avoid insulin usage due to fear of injection pain, while oral medicine are easy to use, while 9.5% doctor observed that patient avoid the insulin usage due to fear of poor quality of life associated with insulin usage, 14.3% doctor believed that their diabetic patient avoid insulin usage due to fear of addiction or dependent on insulin injection and then oral anti diabetic drug can never be beneficial for their diabetic management. The 4.8% doctor observed that their patient avoid the insulin usage due to lack of dispensing facility in their area and they himself are not able to use insulin injection. The 9.5% doctor observed that their patient avoid insulin usage due to some other reasons like storage requirement of insulin. **Conclusions:** The insulin refusal is seems to be major challenge to healthcare providers in management of diabetes mellitus type 2 in Pakistan. The proper patients counseling about benefits of insulin need on urgent basis to improve the situation.

Key words: Quantitative Research study, Diabetes Mellitus, Insulin Refusal.

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INTRODUCTION

The morbidity of type 2 diabetes has increased dramatically in the recent year in Pakistan¹ the diabetes patients from age 20 to 79 is 6.6 millions.² The evidence-based treatment algorithms have encouraged the use of insulin therapy earlier in the course of the diabetes when glycemic control is sub-optimal.³⁻⁴ In most of patients, the oral medicines alone are insufficient for maintaining diabetes control and need insulin therapy. This was shown in the UK Prospective Diabetes Study, where more than half of newly diagnosed diabetic

patients required insulin therapy during initial five to six years of disease diagnosis.⁵

The increasing morbidity of diabetes mellitus in Pakistan, and insulin refusal is one of the main challenges in managing diabetic patients who have suboptimal control. Although insulin treatment has been confirmed to be effective, its start is often delayed in Pakistan due to resistance found in most of patients. A similar study conducted in Malaysia found that the reasons for psychological insulin resistance included

personal failure, pain associated with insulin injection⁷ and fears of difficult hypoglycaemia were the outcome of Malaysian study.⁶ The mutual decision of healthcare providers and patients is mandatory for initiation of insulin therapy.⁹ The decision making process affected by factors that involved both parties.

The aim of present study was to determine the trend of insulin therapy refusal among diabetes mellitus type 2 patients in Pakistan from the healthcare provider's perspective and to find out the reasons behind this refusal.

METHODS

This study was conducted in Karachi one of the major metropolitan city of Pakistan represent true picture of country. The study was conducted in 5 districts of Karachi. The healthcare providers were selected from different specialties like general practitioner & consultants from different clinics and hospitals in practicing in different location of all socio-economic groups of society to avoid any biasness in selection.

A format of precise pre test questionnaire was set to gain the information on socio-demographic and clinical individuality and in some locations conducted interviews with patients due to lack of understanding among un-educated patients. The totals of 450 healthcare providers were approached with convenient random sampling. In this study we evaluated the doctor's perspective about refusal of insulin usage among diabetes mellitus patients in Pakistan. The questionnaire was first pre-tested and evaluated the reliability and validity of questionnaire with group of 50 doctors and showed about 95% of understanding about the questionnaire.

Ethical approval: Ethical approval permission was ensured from the Board of Advance study and Research (BASR) of the University of Karachi. Prior consent was taken from doctors for this study, if they show commitment and agreement, then data were collected with the help of questionnaire.

Data Analysis: Data were authorized following

double entry as given the code number of all filled questionnaire and then data was first input in the excel sheet and then analyzed further on Statistical Package for Social Sciences (SPSS), mean, variance, valid frequency of answer, percentage and cumulative percentage was taken. The histogram of data was taken for further understanding. The significance level is of 5%.

RESULTS

The purpose of this question is to know the doctor's observation that most of patients like to use insulin for their diabetes. The outcome of this question showed that 4.8% doctor observe that patients like to use insulin while 95.2% doctor observation about their patients is that patients did not like to use insulin and insist to prescribed oral anti diabetic drug instead of insulin (Table-I & Figure-1).

Observation	Code	Frequency Percentage % Response
Like to use Insulin	1	4.8%
Refusal to use Insulin	2	95.2%

Table-I. Patient preference of insulin usage

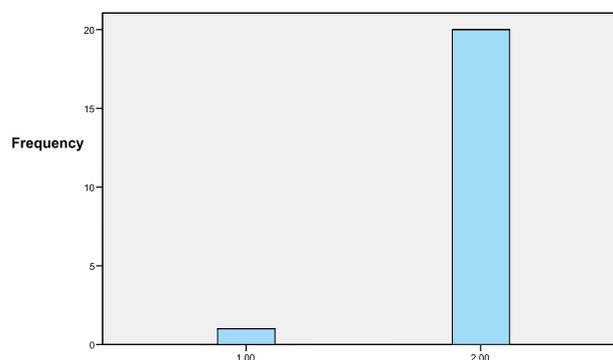


Figure-1. Bar Chart: Patient preference of insulin usage

Moreover during this study try to find out the reasons of insulin refusal mostly observed by healthcare providers. The outcome of this question showed that 61.9% doctor believe that their patient avoid insulin usage due to fear of injection pain, while oral medicine are easy to use, while 9.5% doctor observed that patient avoid the insulin usage due to fear of poor quality of life associated with insulin usage, 14.3% doctor believed that their diabetic patient avoid insulin usage due to fear of addiction or dependent

on insulin injection and then oral anti diabetic drug can never be beneficial for their diabetic management. The 4.8% doctor observed that their patient avoid the insulin usage due to lack of dispensing facility in their area and they himself are not able to use insulin injection. The 9.5% doctor observed that their patient avoid insulin usage due to some other reason like for them it is difficult to manage insulin in refrigerator and during traveling they are not able to use insulin on time etc. (Table No 63 & Figure No 63)

Observation	Code	Frequency Percentage % Response
Fear of Injection Pain	1	61.9%
Fear of Poor quality of Life	2	9.5%
Fear of addiction	3	14.3%
Lack of dispensing facility	4	4.8%
Other reasons	5	9.5%

Table-II. Reason to avoid insulin usage

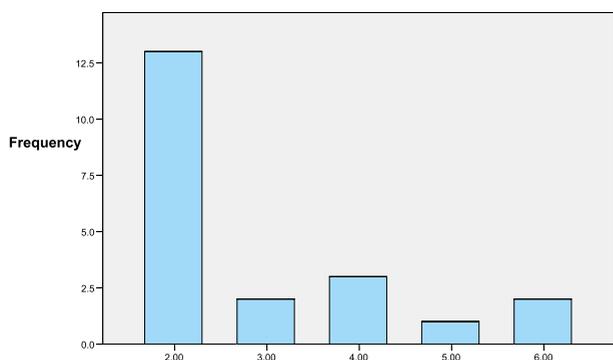


Figure-2. Bar Chart: Reason to avoid insulin usage

DISCUSSION

Diabetes mellitus is very expensive disease throughout the world and its expenditure affects most of the members of our society and government and private health institutions. Diabetes mellitus is the main cause of expense of health care portion and lead to economic burden. The integrated Healthcare System has a set of actions to encourage health, prevention, diagnosis, management, professional training, monitoring and pharmaceutical care and services, and research for diabetes care. Numerous socio-economic factors and health care delivery associated issues manipulate the consequences

of diabetes and as a result the cost and vice-versa.¹⁰ The decision makers have to allocate resources effectively and efficiently.

The study showed that majority of healthcare providers observed when doctors were asked to prescribed insulin for the management of diabetes instead of oral medicines or along with oral medicine the most of patients refuse to use insulin⁷ and they did not like to use insulin due to poor understanding of benefits of insulin therapy⁹. While only small proportion of patients agree to use insulin.

The healthcare providers observed different reasons that are responsible for patients refusal to use insulin and mostly preferred to use oral anti diabetic drugs. The most of doctors identified reasons as fear of injection pain during use of insulin⁷, while oral medicine are easy to use, fear of poor quality of life associated with insulin usage, fear of addiction or dependent on insulin injection and once they use insulin then oral anti diabetic drug can never be beneficial for their diabetic management.⁸ The other factors include lack of dispensing facility and patients not able to self dispense the insulin injection. The insulin need to store in refrigeration at specified temperature and in our society particularly patients from lower to middle economic families did not afford proper refrigeration during power failure.⁷

CONCLUSION

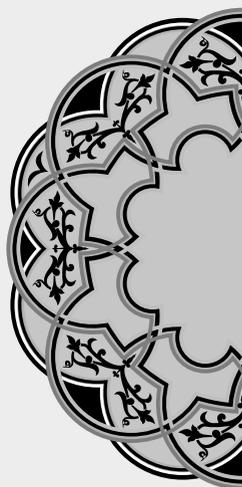
The insulin refusal is seems to be major challenge to healthcare providers in management of diabetes mellitus type 2 in Pakistan. The most of patients comes from lower to middle socioeconomic background and particularly from rural areas need multiple patient counseling about benefits of insulin and this is not a last resort to manage diabetes.⁸ The proper management of diabetes with insulin usage will improve the patient quality of life.⁹ The healthcare organization should develop training module for healthcare providers which educate them how to tackle diabetes patients and give proper counseling to them. The patient education will be vital to decrease the refusal rate of diabetes use trend in diabetes patients⁹ in our

society. Further studies on healthcare provider's related factors contribute to support this study.

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*“We tend to judge others
by their behavior,
and ourselves by our intentions.”*

Unknown

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Mudassar Hussain	Principal investigator topic selection & data analysis & interpretation	
2	Syed Baqir Shyum Naqvi	Co-investigators & data collection	
3	Maqsood Ahmed Khan	Co-investigators & data collection	
4	Adeel Arsalan	Co-investigators & Statistical analysis	
5	Muhammad Akram	Co-investigators & Statistical analysis	