

A Qualitative Study on the Thoughts of Diabetics Against Initiation of Insulin Therapy

Sourav Agarwala¹, Arijit Saha², Uttam Kumar Pal³, Arup Bandyopadhyay⁴

¹Senior Resident, Department of General Medicine, Malda Medical College, Malda, West Bengal, India, ²Post Graduate, Department of General Medicine, Mata Gujri Memorial Medical College, Kishanganj, Bihar, India, ³Professor, Department of General Medicine, Mata Gujri Memorial Medical College, Kishanganj, Bihar, India, ⁴Professor, Department of Physiology, Mata Gujri Memorial Medical College, Kishanganj, Bihar, India

Abstract

Background: Insulin therapy is often needed for proper glycemic control of type 2 diabetes mellitus as well as for other reasons, but the prescribing doctor very often encounters a vehement objection from the patient to implement this. Although some studies have been in India and abroad on this issue, the proper qualitative methodology has not been followed in many of them, and we need to know the obstacles specific to their region, namely, the East India, especially Bihar and North Bengal. Once we come to know the reasons for people's objections against insulin, then only we can overcome them. Therefore, this study has been undertaken here to elucidate the regional issues as well as the global similarities of this problem.

Materials and Methods: The study was conducted in the Medicine Outpatient Department (OPD) of Malda Medical College, Malda, West Bengal and in the Medicine OPD of Mata Gujri Memorial Medical College, Kishanganj, Bihar. The study was one of qualitative descriptive pattern involving in-depth interviews (IDI) of 30 diabetes mellitus patients who had a history of secondary oral hypoglycemia therapy failure requiring insulin injection therapy for further control of hyperglycemia. Studies were done by taking IDI, a type of qualitative research, in which the researcher takes interviews of the patient privately and individually, the audio recording of which is also done. The latter are now transcribed and translated into English from vernacular languages. The individual points which are similar in type are grouped as codes; several of these codes are then grouped into categories. These are then analyzed to bring senses to the study.

Results: The results of the study show that after translation and transcription, the transcripts can be grouped into the following four categories (codes are given in parenthesis): Apprehension (pain, hypoglycemia, dependency, hesitancy, life-long affair, and final treatment), inconvenience (time, trained personnel, storage, remote area, and carriage), social stigma (thinking of others), and financial (cost, payment, and acute crisis).

Discussion: Our studies in Kishanganj, Bihar, covering a rather remote semiurban and semirural area and covering some areas of North Bengal also, together with studies done elsewhere in India and abroad strongly suggest that psychological insulin resistance (PIR) by diabetic patients, is a very strong challenge to maintain a tight and desired glycemic control particularly in type 2 diabetics when they need add-on insulin therapy after partial failure of OHAs. Further and elaborate studies are needed to find ways to overcome these challenges in diabetes management.

Conclusion: It can be inferred that PIR is now globally a burning problem as it is also a problem in rural and semiurban Kishanganj and adjacent areas. Strategies should be developed to encounter this challenging situation; as otherwise, glycemic control in its true sense, in a large number of type 2 diabetics would be grossly compromised. Further researches to combat this challenge are highly required.

Key words: Psychological insulin resistance, Qualitative study, Type 2 diabetes mellitus

Access this article online



www.ijss-sn.com

Month of Submission : 03-2017

Month of Peer Review : 04-2017

Month of Acceptance : 05-2017

Month of Publishing : 05-2017

INTRODUCTION

Insulin therapy is no monopoly of type 1 diabetes mellitus but is extremely important in gestational diabetes mellitus, in severe concomitant systemic infections, during surgery, in cases of diabetic coma, and many cases of type 2 diabetes mellitus also. However, even if the treating doctor strongly

Corresponding Author: Arup Bandyopadhyay, Department of Physiology, Mata Gujri Memorial Medical College, Kishanganj, Bihar, India.
E-mail: arupbanerjee1953@gmail.com

feels the need for initiation of insulin in any case of type 2 diabetes mellitus, it sometimes, becomes tremendously hazardous and difficult to do so, on the face of vehement psychological resistance from the patients themselves. Sometimes, glycemic control becomes very much at bay because of the patient's resistance to start or intensify insulin therapy.^{1,2} In recent years, a new term has been coined to mean the phenomenon of patient's resistance to initiation or intensification of insulin therapy, and this is called psychological insulin resistance (PIR).³ In the famous United Kingdom Prospective Diabetes Study, it was observed that 50% of type 2 diabetic patients needed initiation of insulin therapy within 6 years of diagnosis.⁴ However, PIR gives a strong blow toward achievement of that goal. As a result, although initiation of insulin therapy is crucial sometimes in type 2 diabetes, proper glycemic control is very often delayed in many cases of type 2 diabetes mellitus.^{5,6} A study in a London Hospital revealed that 53% of patients from Bangladesh, being treated there strongly refused to take insulin even after vigorous counselling.⁶

Although some studies have been in India and abroad on this issue, proper qualitative methodology has not been followed in many of them, and we need to know the obstacles specific to their region, namely, the East India, especially Bihar. Once, we know the people's perceptions clearly then only will be able to proceed to overcome them.

Therefore, this study has been undertaken from Mata Gujri Memorial Medical College, Kishanganj, Bihar to elucidate the regional issues as well as the global similarities of this problem.

MATERIALS AND METHODS

The study was conducted in the Medicine Outpatient Department (OPD) of Malda Medical College, Malda, West Bengal and in the Medicine OPD of Mata Gujri Memorial Medical College, Kishanganj, Bihar. The study was one of a qualitative descriptive pattern involving in-depth interviews of 30 diabetes mellitus patients who had a history of secondary oral hypoglycemia therapy failure requiring insulin injection therapy for further control of hyperglycemia.

All the interviews with the diabetic patients were conducted by the first author and second author trained and guided by the third and fourth author who are trained in "qualitative methods in health research." Before the beginning of the study, the interviewers had taken proper written consent from the patients also had taken permission for an audio recording of the interview. They were also from time to

time monitored and guided by the other authors. The transcript and analysis of the data were performed mainly by the third and fourth author. They also prepared the final script of the paper which was scrutinized by the other authors.

In total, 30 interviews were taken. After translation and transcription of the recorded interviews were done by the third and fourth author, they also typed the interviews in English. The descriptive content analysis was done manually. At first descriptive coding of the text information was done. Categories were formed by merging similar codes together. The consolidated criteria for reporting qualitative research guidelines were followed in this study. All the questions in the interview were open ended. Formal approval was taken from the Institutional Ethical Committee of the relevant institutes before the beginning of the study.

RESULTS

The results are given in Table 1.

DISCUSSION

It has been revealed from our studies that the principal causes against insulin initiation raised by the diabetic patients can be grouped into four distinct categories which are as follows: Apprehension, inconvenience, social stigma, and financial. The codes in the first category (apprehension) are pain, hypoglycemia, dependency, hesitancy, life-long affair, and final treatment. Some of the common remarks made by them are as follows: "Needles will cause pain during insulin injection," "it may lead to hypoglycemia, even coma, anytime, and anywhere," "I will become dependent on others permanently to push injections every day," it will become a life-long affair, "it is the last resort of treatment," and so on.

The second category (inconvenience) has five codes, namely, time, trained personnel, storage, remote area, and carriage. The common comments encountered are as follows: "Very difficult to maintain timing particularly with food," "difficult to get trained personnel to push injections," "difficult to store insulin without a refrigerator," "difficult to carry insulin from one place to another particularly to carry every day to workplace," and the like.

The third category (social stigma) has only two codes: Thinking of others and marriage problem. Some common and frequent remarks are as follows: "What the neighbors will think," "what the in-laws will think," there will be marriage problem of my son/daughter, etc.

Table 1: Categories, codes and comments on patients' perceptions against insulin

Categories	Codes	Comments
1. Apprehension	Pain	Pain due to needle prick, pain at injection site, pain due to recurrent injections
	Hypoglycemia	Fear about sudden hypoglycemia, anxiety about nocturnal hypoglycemia, fear about hospital admission due to hypoglycemia
	Dependency	Become dependent on others
	Hesitancy	To take insulin injection in the presence of others, how people around think about injection use
	Life-long affair	Once it started - continued for whole life, no one can give - once it is started
2. Inconvenience	Final treatment	It is the last stage treatment, my relative had taken it in his final stage and was not well
	Time	Very difficult to maintain timing with food, difficulties during traveling
	Trained personnel	Getting trained personnel to deliver injection is troublesome, non-cooperation, and improper behavior from trained personnel
	Storage	Non-availability of Refrigerator for storage of insulin injection
	Remote area	Living in remote area non-availability of health personnel for consultation and adjustment of doses of insulin
3. Social stigma	Carriage	Carrying insulin injection and syringes to workplace, during traveling is cumbersome
	Thinking of others	What the neighbors will think, what the relatives and in-laws will think
4. Financial	Marriage problem	There will be problem regarding marriage of son and daughter
	Cost	High cost of insulin injection and syringes
	Payment	Regular payment of medical personnel for delivering injection
	Acute crisis	Acute crisis in family during illness of other members of the family

The fourth and the last (financial) category has three codes, namely, cost, payment, and acute crisis. The usual comments are as follows: “High cost of insulin and syringes,” “regular payment to medical personnel for pushing injection,” “if money is spent for this, what shall we do when there is an acute crisis in the family,” and such.

The above is the situation that we have encountered in our own study in Kishanganj, Bihar.⁷

Azmiah *et al.* in their study from Kuala Lumpur found that more than 50% of the patients in public health clinic refused insulin when prescribed. The comments were almost the same as ours, but some of them were quite novel, like, “I feel like drug addicts,” “it causes weight gain,” “it causes blindness,” and so forth. They also suggested that in a clinic as soon as the patients are found reluctant to take insulin, the causes of PIR should immediately be explored and a solution sought.

In another study⁸ from Cincinnati, USA Sorli and Heile observed that patients very often antagonize insulin initiation with the idea that insulin therapy is too complicated and time-consuming. Indeed, the patients feel that they are incapable of managing an insulin regimen, particularly determining dosages and handling syringes and vials. Basal-bolus insulin therapy, which can nicely minimize post-prandial glucose excursions and maintain tight glycemic control, can be particularly challenging for patients.

Our studies in Kishanganj, Bihar, covering a rather remote semiurban and semirural area and covering some areas of North Bengal also, together with studies done elsewhere

in India and abroad strongly suggest that PIR by diabetic patients, is a very strong challenge to maintain a tight and desired glycemic control particularly in type 2 diabetics when they need add-on insulin therapy after partial failure of oral hypoglycaemic agents. Further and elaborate studies are needed to find ways to overcome these challenges in diabetes management.

CONCLUSION

It can be inferred that PIR is now globally a burning problem as it is also a problem in rural and semiurban Kishanganj and adjacent areas. Strategies should be developed to encounter this challenging situation; as otherwise, glycemic control in its true sense, in a large number of type 2 diabetics would be grossly compromised. Further researches to combat this challenge are highly required.

REFERENCES

1. Polonsky WH, Fisher L, Guzman S, Villa-Caballero L, Edelman SV. Psychological insulin resistance in patients with type 2 diabetes: The scope of the problem. *Diabetes Care* 2005;28:2543-5.
2. Larkin ME, Capasso VA, Chen CL, Mahoney EK, Hazard B, Cagliero E, *et al.* Measuring psychological insulin resistance: Barriers to insulin use. *Diabetes Educ* 2008;34:511-7.
3. Polonsky WH, Jackson RA. What is so tough with diabetes? *Clin Diabetes* 2004;22:147-50.
4. Peyrot M, Rubin RR, Lauritzen T, Skovlund SE, Snoek FJ, Matthews DR, *et al.* Resistance to insulin therapy among patients and providers: Results of the cross-national Diabetes Attitudes, Wishes, and Needs (DAWN) study. *Diabetes Care* 2005;28:2673-9.
5. Haque M, Emerson SH, Dennison CR, Navsa M, Levitt NS. Barriers to initiating insulin therapy in patients with type 2 diabetes mellitus in public-sector primary health care centres in Cape Town. *S Afr Med J* 2005;95:798-802.

6. Khan H, Lasker SS, Chowdhury TA. Prevalence and reasons for insulin refusal in Bangladeshi patients with poorly controlled Type 2 diabetes in East London. *Diabet Med* 2008;25:1108-11.
7. Azmiah ZN, Zulkarnain AK, Tahir A. Psychological insulin resistance (PIR) among type 2 diabetes patients at public health clinics in Federal Territory of Malaysia. *Int Med J Malays* 2011;10:7-12.
8. Sorli C, Heile MK. Identifying and meeting the challenges of insulin therapy in type 2 diabetes. *J Multidiscip Healthc* 2014;7:267-82.

How to cite this article: Agarwala S, Saha A, Pal UK, Bandyopadhyay A. A Qualitative Study on the Thoughts of Diabetics Against Initiation of Insulin Therapy. *Int J Sci Stud* 2017;5(2):21-24.

Source of Support: Nil, **Conflict of Interest:** None declared.