Review Article

Insulin motivation : best practices

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Under-insulinisation is a key reason that continues to contribute to under-management of diabetes in India. Amongst several factors that lead to failure of initiation and adherence on insulin in Indian patients, psychological insulin resistance, PIR is a critical one. People living with diabetes often relate insulin to needle phobia, weight gain, unexplained hypoglycaemia etc. This manuscript discusses some interventions that could help in adoption of insulin therapy, the most important being patient-healthcare professional interactions to break the myths around the same - with the goal to improve clinical outcomes.

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Key words **: Diabetes, Diabetes Mellitus (DM), Insulin, phobia, psychological resistance, therapy.**

Spectrum of Insulin Phobia :

Insulin therapy has long term benefits to control blood glucose levels. People with type 2 Diabetes mellitus (T2DM) are prescribed insulin therapy in combination with oral antidiabetic agents and are often reluctant to begin insulin which is known as psychological insulin resistance[4,5] and in many cases people delay the start of insulin therapy for lengthy periods of time, raising the risk for long-term complications. In the UK Prospective Diabetes Study (UKPDS) (1995), 27% of those randomised to insulin therapy initially refused it. A number of beliefs and attitudes have been identified by a number of studies (Bashoff and Beaser, 1995; Okazaki *et al*, 1999; Mollema *et al*, 2000) and include: Trypanophobia (fear of injections) or belonephobia (fear of needles and sharp objects), fear of hypoglycaemia, concerns about dependency and loss of personal freedom, fear of weight gain, worries about the inconvenience of injections and proper injection techniques, The belief that the need to start insulin reflects a worsening of the condition and 'failure to manage' on the part of the individual affected with diabetes have been some of the most unwarranted fears and misperceptions in patients about insulin treatment[13].

Some of the patient-associated factors were lack of knowledge, misconception about diabetes and its associated complications, poor adherence to treatment regimens and poor health literacy; and the suboptimal knowledge of guidelines, time and facility constraints and attitudinal issues were few of the physician associated factors.

Indian Study Data :

Though several global studies have investigated risk factors leading to Pshychological Insulin Resistance (PIR)[10] there have been only few Indian studies based on PIR. One of the Indian study, Chennai Urban Rural Epidemiological Study (CURES), identified various patient and physician-associated factors leading to PIR[4]. On the basis of above mentioned study, we did a study on 206 patients out of which 198 patients data was analyzed to explore different psychological factors associated with PIR in Indian T2DM population using 5 validated questionnaires. These psychological risk factors would be helpful for healthcare professionals to identify problem areas so that education can be used as a measure and can be targeted to those groups and areas so as to make insulin acceptable among T2DM patients. The inclusion criteria were age ≥18 years, diagnosis of type 2 diabetes mellitus; treatment with the oral hypoglycemic agents, ability to communicate in English/Hindi, and ability to provide written informed consent. Patients with type 1 diabetes, severe psychiatric disease (eg, active schizophrenia and drug dependency) or on current/ previous insulin treatment were excluded from the study. One hundred ninty-eight patients with T2DM were enrolled where 63% were males, 52% had HbA1c <7% (<53 mmol/mol), 32% were in service, 35% had the annual family income between Rs 100,000-500,000, 50% were graduates and 81% were enrolled from private healthcare set ups. Significant high opposition to use insulin was observed in females, patients based at home, patients with insufficient education, and patients visiting government set-ups compared to males, service-class patients, graduates, and patients approaching private set-ups, respectively[14].

Addressing the Problem :

Negative attitudes, misconceptions and fear about insulin therapy once started, continue lifelong and are reported by both the people with diabetes and health care

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professionals. Clinicians while facing PIR (Psychological Insulin Resistance) came across following practical interventions suggested by Polonsky and Jackson (2004)[11] as given below :

Sl No	Practical Interventions to tackle PIR
1	Identify the patient's personal obstacles
2	Restore the patient's sense of personal control
3	Enhance self-efficacy as quickly as possible
4	Consider insulin pens
5	Frame the insulin message properly
6	Discuss the real risks of hypoglycemia
7	Tackle injection phobias
8	Pass along the good news

Identifying the Individual's Personal Obstacle[7] :

Most people with T2DM with uncontrolled blood glucose levels will eventually use insulin, thus there is a need to give special attention to the issues concerning insulin. From clinician's point of view, instead of trying to convince the person, questions such as "what are your greatest concerns about starting insulin"? will directly link to the individual's fears. Specific concerns and advantages of controlled blood glucose levels should be highlighted (like more energy, less complications etc) as well as highlighting the advancement of modern insulin delivery system can greatly reduce the degree of PIR.

Tackle "Needle Phobia" :

In a small number of cases, people have a phobia of needles to begin insulin therapy; clinicians may want to consider referral to a mental health specialist familiar with psychological treatment for this condition, which might help in improving cognitive behavior. Since needle phobia is extremely uncommon, such type of phobias can be resolved quite rapidly by the health care practitioners. The recent advancement in insulin delivery systems such as pens can help in reducing needle fear in insulin reluctant patients. There is a image still prevailing in people's mind that historically people with diabetes injected insulin using insulin syringes, with large needles and injections were painful also contributes to the fear of needle. However pens are easier and better to operate, no pain, appear less intimidating, and ominous than the traditional bottle and syringe. Therefore people struggling with PIR may found this as an acceptable option[7].

Concern about Weight Gain :

People diagnosed with T2DM are often overweight, therefore weight gain is an issue and further increase in weight is undesirable and can be a concern for some patients with diabetes. Insulin use can be a major obstacle in context of additional weight gain. The anticipation of weight gain with insulin therapy and the discipline needed to compensate for it are psychological burdens that can cause negative feelings toward insulin therapy. Insulin omission in women with Type 1 Diabetes Mellitus (T1DM) is common. In one study, almost one third of the women surveyed admitted to their underuse of insulin to reduce their weight[3]. When insulin therapy begins in combination with oral agents in obese people with T2DM, it has been found to minimize the amount of exogenous insulin requirement to minimize weight gain. In addition, the obese patient with diabetes whose disease is poorly controlled with maximum oral- antidiabetic therapy may benefit from weight-reducing agents, such as sibutramine or orlistat[1,7].

Discuss the Real Risk of Hypoglycemia :

The main concern of people with T2DM is the risk of developing hypoglycemia which can be fatal. Patients should be reassured about how to treat severe hypoglycemia (where help from another person is required) is quite less in type 2 diabetes even among those who are on insulin. The hypoglycemia protocol should be introduced to them. Therefore with a good diabetes management, more frequent blood glucose monitoring as well as awareness about diabetes and further diabetes education so that people become more skilled in treating hypoglycemia- which can reduce the risk of future potential problems further[7].

Frame the Insulin Message Properly :

People with T2DM should be made aware about good diabetes management, time should be given to patient to explain about diabetes (a degenerative and progressive condition), its mechanism, the complications associated with diabetes and blood sugar monitoring and targets, about OHA'S (Oral Hypoglycaemic Agents) (Anti hyperglycemic drugs), about working mechanism of insulin, insulin delivery and technique or stronger medications would be needed over the time in order to maintain or achieve glycemic targets[7].

Enhance Self Efficacy as Quickly as Possible :

When insulin therapy is first introduced to patient, the whole process of what is insulin, how it works and how to administer insulin; the insulin technique should be demonstrated in front of the patient in the consulting room. The patient should be encouraged to practice the delivery of insulin under your supervision before returning home. Clinician encouragement and support provided to the patient that the insulin injections are not difficult to administer or painful can boost the patient's confidence[7].

Conclusion :

Patients with Diabetes Mellitus (DM) stand a better glycemic control with Insulin therapy which is needed to

wave off the risk of complications associated with diabetes mellitus. In insulin reluctant people with type 2 diabetes mellitus, PIR is uncommon. It is likely to contribute to raised blood sugar levels and long delays in initiating insulin therapy. People often do not adhere to insulin regime, because of the simple fears of needles, weight gain, deeply held beliefs of insulin, diabetes and painful injections. The way clinician, healthcare practitioner or Diabetes educator communicates or introduces insulin to patient can be a major contributor to PIR. In India, social stigma and lack of education are a major factor which contributes PIR in an Indian diabetic patient. Good inter-personal interactions between patients and healthcare practitioner can be one of the first steps to overcome any psychological behavior.

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