Addressing Insulin Misperceptions (AIM) — Part 1
Sanjay Kalra,¹ Yashdeep Gupta²

Abstract
Insulin misperceptions are specific, widespread, incorrect beliefs about the purpose, utility, and limitations of insulin. This article, the first of a series, attempts to define and classify insulin misperceptions, while providing an overview of their sources. It lists the target audience in whom misperceptions must be addressed, and differentiates between insulin-naïve and insulin-experienced users, who may hold different misperceptions. The article provides a scientific framework with which to address insulin misperceptions in a rational, effective, manner.

Keywords: Diabetes, Psychosocial, Patient education, Counselling, Glargine, Degludec.

Introduction
Insulin misperceptions are specific and widespread, yet incorrect, beliefs¹ about the purpose, utility, and limitations of insulin.

Misperceptions are similar to misinformation and myths. While misinformation tends to be more specific and limited in its scope (e.g., insulin can damage my kidneys), myths are broader in their coverage (e.g., insulin is bad for health) and tend to have a trans-generational 'metabolic' memory (e.g., my grandmother told me that insulin injections hurt).

Misperception, however, is different from concern about actual side effects, such as hypoglycaemia, which may have occurred in the past.

Sources of Misperception
Sources of insulin misperceptions are many. Health care providers often unwittingly, reinforce an anti-insulin thought process by suggesting it as a threat, a punishment, or a complex, painful procedure.² Social networks, including colleagues, friends, and the social media, offer (unsolicited) advice of dubious accuracy.³

Some misperceptions arise from past self-experience or experience of a close friend or family member, which is wrongly extrapolated to the current situation. For example, knowledge of a relative with end stage renal disease, dying one year after institution of insulin therapy, is perceived as a fact that anyone who takes insulin will die within one year of starting treatment. An amputation which occurred because of delayed insulin initiation is projected as having been precipitated by start of insulin therapy.

Classifying Misperceptions
No formal effort has been made so far to create a taxonomic framework for insulin misperceptions. This is necessary, however, in order to create a systematic way of addressing these barriers to health.

Misperceptions can be classified according to whether they are held by the health care provider, the person with diabetes, or his/her family members. They may also be divided into individual beliefs (e.g., insulin has made me bald) and culturally-embedded or socially embedded misperceptions (e.g., insulin is addictive). Some misperceptions are insulin-specific (e.g., premixed insulin is inflexible and causes hypoglycaemia), or device specific.

Table 1: Misperceptions about insulin.

**RELATED TO BIOLOGICAL FACTORS**
- A sign of failure
- A sign of impending death
- A sign of impending complications

**Related to safety**
- Fear of hypoglycaemia
- Fear of weight gain
- Fear of heart/kidney/eye/foot complications

**Related to tolerability**
- Fear of pain
- Fear of complexity
- Fear of intrusion into lifestyle

**RELATED TO PSYCHOLOGICAL FACTORS**
- Fear of injections/needles
- Inability to self-inject
- Feeling of dependency

**Related to social factors**
- Social stigma
- Affordability
- Insulin storage/travel

Department of Endocrinology, ¹Bharti Hospital, Karnal, ²AllIMS, New Delhi, India.
Correspondence: Sanjay Kalra. Email: brideknl@gmail.com
therapy may be driven by cost or convenience-related non-using patients. However, reluctance to intensify can be explored through a process of dialogue, before insulin genuinely experienced side effects. All these aspects must be addressed by cost or convenience-related considerations.

**Addressing Misperception: Challenges**

Addressing misperceptions is not as easy as it seems. Long-held, or community-embedded beliefs are relatively more resistant to change. People interpret information within the context of their personal experiences and world view. Educational strategies, therefore, should be designed keeping the intended audience’s sociocultural, economic, and physio-geographical environment in mind. For example, repeated mention of refrigeration for insulin storage in a cold mountain valley, or the cardiovascular benefits of insulin to a young type 1 population, will be counterproductive. A campaign which repeats the misinformation that it is trying to correct may end up strengthening it. The statement “Amputations occur because of diabetes-prevent amputations with timely insulin” is less likely to motivate insulin initiation than “Insulin helps early wound healing.”

Simpler facts are easier to comprehend and remember, so complex, accurate information may be unable to dislodge simple, even though untrue, perception from memory. Knowledge that is presented in a socially or culturally inappropriate manner may have unwanted repercussions. For example, a demonstration of correct insulin technique by a nurse wearing socially unacceptable clothing will not be able to replace misperceptions about injection technique. Rather, this cultural issue may negate whatever other benefits may have accrued from an education campaign.

**Points to Remember: The Spectra Approach**

Table-2 provides a checklist to help ensure crafting of appropriate strategies to address insulin misperceptions. Any AIM intervention should be simple, and contain only positively worded words and phrases. It must be accompanied by a rational, easily understandable explanation to replace existing misperceptions. The message should be creatively crafted, using visual tools, metaphors, analogies, and analogies which are appropriate for, and not offensive to, the intended audience. These should be delivered through trusted sources of information.

<table>
<thead>
<tr>
<th>Letter</th>
<th>Description</th>
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<tbody>
<tr>
<td>S</td>
<td>Simple: have limited information</td>
</tr>
<tr>
<td>P</td>
<td>Positive: focus only on providing correct information</td>
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<tr>
<td>E</td>
<td>Explanatory: be accompanied by a rational explanation</td>
</tr>
<tr>
<td>C</td>
<td>Creative: use graphic/pictorial forms</td>
</tr>
<tr>
<td>T</td>
<td>Trustworthy: be delivered through trusted sources of information</td>
</tr>
<tr>
<td>R</td>
<td>Repetitive: be repeated frequently, in multiple manners</td>
</tr>
<tr>
<td>A</td>
<td>Appropriate: use content which is appropriate for the intended audience</td>
</tr>
</tbody>
</table>

**Table-2: Effective addressal of insulin misperceptions: The spectra approach.**
information, and repeated frequently.

Ideally, health care professionals, as well as people with diabetes and their family members, must be targeted with all educational interventions. However many strategies may be specific to a particular target audiences, e.g., Parents and siblings of type 1 diabetes children.

Aim in The Clinic

The individual diabetes care provider should follow a systematic approach to diagnosing, demystifying, debunking and displacing insulin misperceptions. The WATER mnemonic (welcome warmly; ask and assess; tell truthfully; explain with empathy; reassure and return) is a useful tool to remember.²

One should take a systematic, comprehensive history to explore and identify the individual’s perceptions. After assessing the source and strength of beliefs, one should demystify and debunk health-threatening misperceptions, by gradually repeating simple, easily understandable messages, with rational explanations, in a socially acceptable manner.

Addressal of insulin misperceptions should be embedded in clinical care. Every consultation, with every health care professional, is a window of opportunity to debunk misperceptions about insulin. A continuous, concerted process of patient education, focusing on age-, gender-, and situation-specific aspects of insulin use, should be followed in the clinic. This should not be limited to patients who need insulin at a particular time point: it should extend to all patients, irrespective of where they are in the natural history of the condition.

Conclusion

Addressing insulin misperception (AIM) is an integral part of insulin prescription and diabetes care. A scientific approach to this clinical challenge is required to facilitate acceptance of insulin therapy, in a timely manner, and improve therapeutic outcomes in diabetes.

References