

Use of Fast-Acting Insulin Analog for Preparing a Pharmaceutical Composition for Preventing, Treating, or Alleviating Diabetes

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Abstract

Diabetes is the most common disease in India that mostly affects adult people and reduces physical strength. Diabetes decreases insulin production in the human body that creates various physical disturbances such as damage to the heart, stroke, and others. In the past decades, medical treatments have followed long-acting insulin that reduces life expectancy rate and increases mortality rate in India. Along with that, in the present time, India's medical treatment has adopted the pharmaceutical composition of insulin to prevent diabetes and manage blood sugar in the human body. In this regard, this research study has selected some previous research papers to understand the importance of fast-acting insulin analogue to prevent diabetes. According to the secondary information, most of the medical treatment process in India has adopted fast-acting insulin analogue to prevent diabetes. Moreover, though fast-acting insulin analogue India reduces mortality rate and increases the life expectancy of adult people in India.

Keywords

Amino acids, E-bacteria, Metabolic disturbances, Regular Human Insulin (RHI).

INTRODUCTION

Diabetes is a life-threatening chronic disease that decreases physical potentiality in the human body. In this disease, the human body has lost the capacity to produce insulin and the efficiency of insulin. Along with that, blood glucose level has increased in the human body that damaging the **eyes**, **kidneys**, and **nerves**. In this regard, insulin therapy is one of the most essential treatment processes that help increase physical capacity in the human body. Moreover, "**hyperglycaemia**", and "**insulinogenic**" have helped to reduce **metabolic disturbances**, and **tissue catabolism** that can be life-threatening for people. Along with that, insulin analog is the most significant pharmaceutical composition that helps to prevent diabetes. This research study analyses the importance of insulin analogue to prevent diabetes through effective research methods. Moreover, pharmaceutical composition in terms of prevention and treatment of diabetes has been discussed.

CONCEPT OF INSULIN ANALOGUE

Insulin analogue is one of the most significant pharmaceutical compositions that help to reduce life-threatening disease diabetes. In diabetes, the human body has suffered various risks in the physical issues such as **damage to the eye**, **kidneys**, and **nerves** due to high blood glucose levels. In the human body above the normal level of blood glucose has caused **heart disease** and **strokes**. In this regard, insulin treatment can reduce blood glucose levels in humans and increase physical capacity to prevent diabetes. In the human body insulin is a hormone that helps to keep a normal range of blood glucose to maintain physical strength

([3]. 2019). The most effective role of insulin is to move glucose from the **bloodstream** and increase the **energy of cells**. In this regard, in recent times pharmaceutical compositions make insulin analogous for treating, preventing, and alleviating diabetes. Insulin analogue is laboratory-grown insulin. In the present time, pharmaceutical composition makes rapid-acting insulin to manage **blood sugar** in the human body. In the laboratory, it creates similar insulin as human insulin with **E-bacteria** for growing insulin proteins. Pharmaceutical composition of insulin has changed level **amino acids** to use insulin in the human body than regular insulin.

In the words of [1]. (2019), analogue insulin is two types one is **fast-acting insulin**, and another one is **long-acting insulin**. In the human body, fast-acting insulin starts work immediately after taking the injection. This insulin has helped to **manage blood sugar** within the first hour after taking the injection. In pharmaceutical management, most of the time it deals with risky patients to reduce blood sugar to prevent diabetes ([3]. 2019). At this point, fast-acting insulin analogue has helped to manage insulin levels in the patient body. Moreover, fast-acting insulin analogue has helped to replace bolus insulin in the human body. In this regard, one of the most effective fast-acting insulin is "**Fisap**". This insulin analogue works in **4 minutes** to manage blood sugar in the human body to prevent diabetes and increase the energy of cells.

EFFECT OF FAST-ACTING INSULIN ANALOGUE TO PREVENT DIABETES

In the medical process, insulin therapy is one of the most beneficial treatments to manage blood sugar in the patient's

body. In the present time, every sector has adopted technology to upgrade organizational performance. In this regard, medical treatment is one of the most significant sectors that adopted various technologies such as **DNA technology** that helps to create fast-acting insulin to prevent diabetes in the human body. Along with technological uses, insulin analogue creates effective insulin such as fast-acting insulin and long-acting insulin. In this regard, the most effective benefit of insulin analogue is rapid work after injection ([8]. 2019). Moreover, fast-acting insulin analogue helps to manage blood sugar in the human body immediately. In the past decades, diabetes treatment has **used multiple injections daily** to manage insulin balance in the human body. In this regard, the pharmaceutical composition has grown fast-acting insulin to prevent and treat diabetes in the human body ([6]. 2018). This fast-acting analogue has **reduced injection frequency** and improved the capacity of insulin. This injection starts work **2-4 minutes** after taking this insulin.

In the past decades, insulin therapy has taken **5-6 hours** to reduce blood glucose from the human body. In this regard, fast-acting insulin therapy takes only **15 minutes** to manage blood glucose from the human body. Moreover, this insulin therapy has helped to maintain **Regular Human Insulin (RHI)**. In the other words, RHI imbalance has created cardiac disease in the human body such as stroke, heart damage, and others. In this respect, fast-acting insulin has helped to **reduce cardiac disease** in the human body through increasing cell capacity and boosting energy. The clinical use of insulin has proved that, rather than RHI and long-acting insulin, fast-acting insulin has helped to prevent diabetes in the human body effectively ([6]. 2018). In the present time, medical institution has handled the various types of diabetes patients. In this regard, fast-acting insulin has helped to reduce the risk of diabetes in patients. In the other words, diabetes has reduced physical capacity through reduced energy. Moreover, high production of blood glucose has helped to damage the eye, kidney, and nerve of the patients. Along with that, fast-acting insulin has helped to reduce physical difficulties and improve the physical strength of the patients.

PROPOSED METHODOLOGY

In the research study, the methodology is one of the most significant aspects that help to understand the importance of the study. According to the research article ([4]. 2019), in the present time, pharmaceutical trials have helped to analyse insulin analogues to improve human physical strength and prevent diabetes. **Clinical pharmacology trials** have helped to collect data on glucose clamps. On the other hand, local clinical centres in India have followed effective rules and regulations to control diabetes. The protocols and regulations of medical health centres had helped to improve diabetes patients' health. In this regard, to understand the importance of fast-acting insulin therapy, analyse some previous research papers from **online sources**. In this regard, **research articles**,

journals, and **authentic websites** are the most significant sources that can help to understand the importance of insulin therapy to prevent diabetes.

According to the previous research articles, diabetes is the most common disease in India that decreases the **life expectancy of people**. Along with that, most of the clinical institutes in India have adopted fast-acting insulin to improve patient health and manage blood sugar. According to the research article ([4]. 2019), diabetes has affected mostly adult people above age 18 years. In past decades, insulin therapy has taken 12 months with multiple injections. This long-acting insulin therapy has created various difficulties for the clinical institute to manage patients' health conditions. Along with that, this research study has selected some **previous research papers** to analyse the effective use of fast-acting insulin treatment for preventing, treating, alleviating diabetes ([10]. 2018). On the other hand, as per the secondary data, this research study has **selected some themes** based on the secondary information to analyse the importance of fast-acting insulin therapy in medical treatment.

FINDING'S ANALYSIS

Theme 1: Use of fast-acting insulin analogue

Diabetes is a chronic disease that reduces potentiality from the human body and damages physical capacity. In India, diabetes is one of the most common diseases. According to International Diabetes Foundation data, in 2009-2010 the number of affected diabetes patients was **285 million** ([9]. 2018). Moreover, this organization has expected that in 2030, this ratio will increase to **438 million**. In other words, across the world, **6.4%** of adult people have been affected due to diabetes ([9]. 2018). Along with that, the medical sector needs to find a way to prevent diabetes and improve the physical strength of the people. Along with that, fast-acting insulin is a **laboratory-grown hormone** that helps to prevent diabetes and manage blood sugar in the human body.

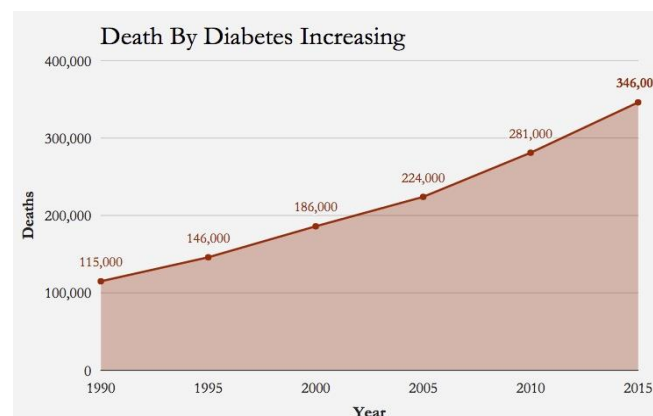


Fig 1: Death rate of Diabetes in India
(Source: [5]. 2019)

In the past decades, poor medical management has increased the mortality rate due to diabetes in India. In 2016, the total mortality rate was **3.1%** that was **0.98%** higher than

in 1990 ([9] 2018). In this regard, the clinical sector of India has adopted fast-acting insulin to manage blood sugar in the human body immediately and reduce the mortality rate. In previous decades, the medical sector of India has used long-acting insulin therapy that takes **4-5 hours** after taking insulin. In this regard, fast-acting insulin has helped to manage blood sugar from the human body for 5-6 minutes ([5]. 2019). On the other hand, fast-acting insulin increases the life expectancy of the patients.

Theme 2: Importance of pharmaceutical composition of insulin for prevention of diabetes

In the present time, insulin analogue is the most significant diabetes therapy that helps to improve the physical condition of diabetes patients. Diabetes has reduced insulin production in the human body that creates high blood sugar in the human body. High-level blood sugar has created heart disease in the human body and also damages other body parts. Along with that, fast-acting insulin is one of the most significant ways to prevent diabetes. India has the highest rate of diabetes patients. Along with that, India is known as a **“diabetes capital”**.

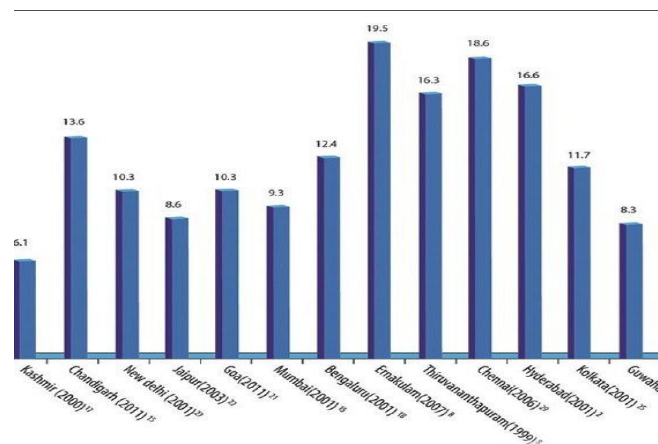


Fig 1: Prevention of Diabetes in India
(Source: [2]. 2018)

In this regard, fast-acting insulin analogue has helped to prevent diabetes. In India, **74 million** people prevent diabetes with fast-acting insulin. In the other words, **8.7% of adult people** overcome diabetes in India ([2]. 2018). In this regard, fast-acting insulin has helped to improve the physical condition of people and reduce the mortality rate in India. In other words, high blood sugar levels have created other physical issues in the human body.

Theme 3: Disadvantage of fast-acting insulin analogue to prevent diabetes

Fast-acting insulin has improved the medical treatment process to prevent diabetes and mortality rates. In the other words, this fast-acting insulin analogue has created some difficulties for the patient such as **the high price of insulin, unwanted side effects, and developing cancer** ([7]. 2018). One of the most significant side-effects of fast-acting insulin is weight gain. Fast-acting insulin increases weight in the

patient body that creates difficulty for the human. In the other words, hypo awareness, lethargy are the other two most effective side effects that negatively impact the human body. Moreover, shortness of breath is another significant side effect of fast-acting diabetes. In fast-acting insulin has reduced blood sugar from the human body. In this regard, sometimes, patients have faced low blood sugar that also created physical disturbance in the human body such as **headache, hunger, sweating, irritability, dizziness, fast heart rate, and feeling anxiety** ([7]. 2018). Along with that, the fast-acting insulin needs to be put in the body carefully. Low blood sugar has reduced physical ability in the human body.

CONCLUSION

After all these discussions it can be concluded that diabetes is a chronic disease that decreases human physical strength effectively. In past decades, long-acting diabetes treatment processes have decreased patient health and increased mortality rate. Along with that, in the present time, the medical sector adopted the pharmaceutical composition of insulin for preventing, treating, and alleviating diabetes. In the pharmaceutical composition of insulin, fast-acting insulin analog is a rapid treatment of diabetes. Fast-acting insulin analog has helped to manage blood sugar immediately and increase physical strength in the patient body. This effective use of fast-acting insulin analog has reduced the mortality rate.

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