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## Prophetic Medicine is the Safest, Cheapest and Most Effective Alternative to Modern Medicine for the Treatment of Diabetes Mellitus (DM)2: A Mini Review

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**Abstract** Prophetic medicine or Medicine of the Prophet (peace be upon him) comprises the divinely inspired words of therapy of Prophet Muhammad (peace be upon him). The Prophet (pbuh) made specific statements on 61 medicinal plants, herbs and shrubs while making prescriptions for the sick people. Therefore, although the Prophet's arrival was not as a physician or pharmacist he was inspired by Allah (God) to make nearly 1000 statements on healing for the benefits of man, because, man needs to remain well, free from sickness to fulfill his brief mission on earth. However, it is amazing that not a single statement of the Prophet (pbuh) is found to be contradictory to the basic principles of modern medical science. The Qur'an says, "**He does not speak anything of his own desire. It is only a Revelation revealed**" (An-Najm 53:3-4). So traditions of the Prophet (pbuh) on healing are also true, and modern science has proved it through research after 14 centuries. About *Nigella sativa* Abu Hurayrah (ra) narrates that the Prophet (pbuh) said:

**"Hold on (use this seed regularly)! Because it is a remedy (cure) for every disease except death."** (Bukhari, Muslim, Ibn Mâjah and Ahmad)

This amazing statement generated tremendous interest among the world's scientific community. Their question was, how an unlettered man of the desert without having any pen and paper, could make such a wonderful statement on medical science? Moreover, the Prophet (pbuh) made the statement at a time when there was no chemistry, no science, no pharmacy. The statement finally led the scientific community to carry out extensive phytochemical and biological investigations on *Nigella sativa* and its oil. However, the researchers after having carried out hundreds of scientific researches around the globe finally came to the conclusion that this tiny plant seed can effectively cure 129 different types of ailments including 17 types of cancer, AIDS, hypertension and diabetes. This large number of diseases curable by *Nigella sativa* demonstrates the authenticity of the Prophet's statement.

In this paper the learned readers will be enlightened with findings of modern scientific researches on how *Nigella sativa* can effectively cure numerous ailments particularly **diabetes mellitus (DM) 2**.

**Keywords** *Nigella sativa* oil and extract, black seed, black cumin, thymoquinone, diabetes, Prophetic medicine, anti-diabetic drug

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### Introduction

**What is Diabetes Mellitus (DM)?** Diabetes mellitus (DM) is a metabolic disorder. It is defined as a spectrum of diseases in which the body is deficient in, or resistant to insulin. Insulin is a hormone which regulates blood sugar throughout the body. Excessive sugar circulating in the body is harmful to many organs. American Diabetic Association (2009) defines diabetes mellitus as a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. The chronic hyperglycemia of diabetes is



associated with long-term damage, dysfunction, and failure of various organs, especially the eyes, kidneys, nerves, heart, and blood vessels. American Diabetic Association further reports that the symptoms of type 1 diabetes include frequent urination, extreme thirst, extreme hunger, unexplained weight loss, fatigue, blurry vision, frequent infections, nausea and vomiting [1].

**What is Type-1 diabetes?** Type 1 diabetes is a disease that occurs when the pancreas doesn't produce enough insulin. Insulin is a hormone that the body needs to get glucose from the bloodstream into the cells of the body. The body breaks down the sugars and starches we eat into a simple sugar called glucose. Insulin helps cells to open up and receive glucose for energy. If the cells are unable to receive glucose, they can starve to death, causing tissues and organs begin to degenerate. Because the body lacks sufficient insulin in type 1 diabetes, this is a serious danger to millions of people living with the disease. People living with type 1 diabetes need to test their blood sugar often to see how their lifestyle choices are working together to control diabetes. American Diabetic Association reveals that Type 1 diabetes is usually diagnosed in children and young adults, and was previously known as juvenile diabetes. Only 5% of people with diabetes have this form of the disease [2].

**Global scenario of diabetes:** The current global scenario of diabetes is that 171 million people suffer with diabetes worldwide. It is increasing with the frightening rate globally. Diabetes affects more Americans than cancer and HIV. In the US, there are approximately 26 million sufferers, out of this nearly 20 million Americans already have full-blown diabetes, and up to 40 percent of the rest are pre-diabetic. In the Middle East 7 out of every 10 deaths are attributed to side effects of diabetes. In the USA diabetes is the number 6 as well as the leading cause of death, and also one of the major killers of the elderly [3].

The World Health Organization (WHO) estimates that more than 180 million people worldwide suffer from diabetes and this number is likely to be double by 2030. The numbers are overwhelming. WHO further says that by practicing healthy eating habits, regular exercise and including a variety of foods – you can maintain a healthy blood sugar level without the need for toxic drugs [4]. According to Al-Aboudi and Afifi (2011), diabetes is a serious disease which has reached epidemic proportions in many parts of the world. Despite the tremendous developments in medicinal chemistry, traditional medicine is still a common practice for the treatment of diabetes [5].

**Economic costs of diabetes treatment:** According to American Diabetes Association (2008), in the USA in the year 2007 the economic expenditure for diabetes was 174 billion dollars including \$116 billion in excess medical expenditures and \$58 billion in reduced national productivity. Medical costs attributed to diabetes include \$27 billion for care to directly treat diabetes, \$58 billion to treat the portion of diabetes-related chronic complications that are attributed to diabetes, and \$31 billion in excess general medical costs.

People diagnosed with diabetes spend an average of 2.3 times more money on healthcare than people without diabetes. Because of this alarming situation more and more people are looking for natural alternatives to live longer and be healthier. *Nigella sativa* therapy is one of such alternative cures. It has been recently reported through numerous studies that that *Nigella sativa* can reverse diabetes symptoms in as little as a few months with minimal costs [2, 6].

### Aim of Present Review Study

**Effects of commonly used anti-diabetic drugs:** Currently it is observed that the therapeutic agents used to treat DM are either synthetic or formulated dosage forms. The beneficial effects of modern anti-diabetic drugs are well documented, but the preventive effect of most of the allopathic drugs against the complications of diabetic patients is not always positive. Oral anti-diabetic drugs which are commonly used for the treatment of diabetes have numerous side effects. It has been reported that sulfonylureas are associated with hyperglycemia, biguanides develops lactic acidosis, while thiazolidinediones are associated with risk of myocardial infarction and heart failure [7].

Apart from these, majority of the type-2 diabetic patients do not achieve the target glycemic control with the above therapies. Hence, they resort to insulin therapy, which always gives effective glycemic control, but insulin therapy has also some demerits. Insulin is not effective orally, and constant refrigeration of the drugs sometimes becomes difficult, especially when one travels to remote villages. Furthermore, in the event of excess dosage it causes



hypoglycemia, so use of insulin is to be restricted. Menon et al. (2010) further report that in view of the demerits of modern anti-diabetic medicines popularity of modern medicine is decreasing, while that of alternative medicine is increasing [7].

So far there is no standard treatment to achieve required correction of blood glucose in many patients. Diabetic patients who use insulin and other drugs on regular basis are aware of the fact that they have to continue taking the medication even before death. They are not aware of the availability of any effective alternative medicines, which are also inexpensive and safe. Therefore, the aim of this review is to reveal pertinent information about the use of Prophetic medicine as an effective alternative to modern medicine for the management and treatment of diabetes. It is imperative that the alternative cure should be effective, safe (free from side effects), easily usable and affordable (inexpensive).

### Use of Prophetic Medicine as Holistic Approach to Cure Lifestyle Diseases

**Background of healing with the Medicine of the Prophet(pbuh):** Prophet Muhammad (peace be upon him) was the last Prophet and Messenger(pbuh)of Allah. Like Prophet Jesus (AS) his statements are also divinely inspired and true. Prophet Muhammad (peace be upon him) did not speak a single lie in his lifetime of 63 years. That is why he was given the title ‘Al-Ameen, meaning ‘Trustworthy’ by all people irrespective of their belief and inclination. Furthermore, nobody could claim that he taught Muhammad (pbuh). However, although he did not attend any school, college, madrassa (religious school) or university to receive any formal education, but the statements he made fourteen centuries ago are now proved to be scientifically true. This further confirms that no one can claim the credit of knowing all these hidden facts of health and wellness, diseases and treatment as well as public health issues fourteen centuries ago, except a Prophet (pbuh) a chosen man from Allah (God). This is because Almighty Allah says in the Holy Qur’an:

**“He does not speak anything of his own desire. It is only a Revelation revealed.”**(Qur’an, An-Najm 53:3-4) [8].

Allah (God) further pronounced a word of caution, **“And if Muhammad had made up about Us some [false] sayings, We would have seized him by the right hand; then We would have cut from him the aorta”** (Qur’an, Al-Haqqah, 69: 44-46) [9].

So, from these two verses of Qur’an we come to know that all statements of the Prophet (pbuh) his statements on healing are also true, and modern science has proved them through scientific researches after 14 centuries.

**Following Prophetic lifestyle in eating and drinking can prevent lifestyle diseases:** Diabetes mellitus is a lifestyle disease. So, if we follow the Prophetic lifestyle we shall be away from the lifestyle diseases. There is a story. During the early days of Islam 14 centuries ago the Persian emperor sent one physician to Prophet Muhammad (pbuh) to treat his Companions in case of illness. The physician stayed in Madinah for one to two years, but during this time no Companion of the Prophet (pbuh) went to him for treatment. One day the physician went to the Prophet (ﷺ) and said, “I have been sent to you to treat your Companions in case of any sickness, but during this long time none approached me for any medical advice or complained for any sickness. So, there is no need for me to stay here”. Hearing this, the Prophet (pbuh) said, **“It is the custom of the people of this land not to eat until they are hungry. And when they eat they leave a portion of the stomach empty.”**The physician then remarked, that is the perfect reason for their excellent health. The physician kissed the ground and left Madinah [10].

From this true narration, we come to know that sickness occurs mainly due to overeating. It may also occur due to under eating. Harith Bin Kaladah (ra), a Companion of the Prophet (ﷺ) and an Arabian physician was once asked, what is the cure? He said, **‘Hunger, fasting or necessity’**. When he was asked, ‘what is a disease?’ Hereplied, **‘entry of food upon food [11].’** Even Ibn Sina (Avicenna) said the same thing. He said, **‘Never have a meal until the one before is digested’**. Harith Bin Kaladah (ra) further said, **‘stomach is the seat of all ailments and eating after eating causes an illness’**[12]. So if the inhabitants of a community (Madinah) could remain well free from sickness and diseases following the Prophetic lifestyle for nearly two years when there was no access to modern medicine or medical facilities, then why not it is possible in this time of scientific advancement? Therefore, it is very reasonable to opine that the world community, including the Muslims, Christians, Jews and people of other Faiths should follow Prophet Muhammad (ﷺ) as the best guide in all matters including sickness and affliction.



**Eating when not hungry is bad for health:** The Prophet (pbuh) advised the Muslim Nation not to eat until hungry. This statement forms the basis of remaining well all the time. Today modern science is also echoing the same thing. Recently we have come across a research article published in the inaugural issue of the *Journal of the Association for Consumer Research* entitled, "**The Behavioral Science of Eating.**" Koert and Brian (2016) report that the individuals participating in the study were 45 undergraduate students. The participants were first asked to rate their level of hunger and then to consume a meal rich in carbohydrates. To measure how the meal was impacting participants' health, participants' blood glucose levels were measured at regular intervals after they consumed the meal. Blood glucose levels tend to rise after a meal containing carbohydrates. It is generally healthier if blood glucose levels rise by a relatively small amount because elevated blood glucose is damaging to the body's cells. It was found that blood sugar of those who were hungry before eating the meal was much lower than the other group [13].

**Modern medical science does not specify the amount of food to be taken in a single meal:** Modern medical science does not specify the amount of food one should eat regularly for maintaining good health. But the Prophet (pbuh) made specific statements on the amount of food to be taken in a single meal and the time and frequency of eating. Mikdam Ibn Madikarob (ra) narrates a very important hadith that the Prophet (**hubp**) said:

**“The son of Âdam never fills a vessel worse than his stomach. The son of Âdam only needs a few bites that would sustain him (that is, to strengthen the loins), but if he insists, one-third should be reserved for his food, another third for his drink and the last third for his breathing.”** (A sound hadith recorded by Ahmad [14], Ibn Mâjah [15], and at-Tirmizi [16])

If we explain the above Prophetic statement in the light of modern knowledge, we will find that it exactly fits to the modern concept. Let us take the example of a liquidizer or blender which we use to mix, chop or grind food items in our kitchen. If we fill the blender completely with garlic, ginger, onion, turmeric and other food items and do not add water, will it work? Certainly, it will not. Our stomach is also like a blender. It contains solid food, liquid food and semi-solid food. It also contains vitamins, minerals, carbohydrates, proteins, fibers, fat etc. So, in order to digest the food items properly we must keep some space in the stomach empty for the physiological process to take place properly. If we fill our stomach with food, we shall not be comfortable to walk, move, work, sleep or rest. Moreover, we might have obesity. So, the Prophet's advice on the amount of food items to be consumed in a single meal is very scientific. Abu Hurayrah (ra) further narrates that the Prophet (pbuh)said:

**“The food of two persons is sufficient for three, and the food of three persons is sufficient for four persons”** (Bukhari and Muslim) [17-18]. On the other hand, Jâbir (ra) narrates that he heard the Prophet(pbuh)say:**“The food of one person is sufficient for two, the food of two persons is sufficient for four, and the food of four persons is sufficient for eight.”** (Muslim) [19].

If we implement the first hadith (tradition) narrated by Abu Hurayrah (ra), let's say, the food of 100 million people of a country will be enough for 150 million people. On the other hand, if we implement the hadith narrated by Jabir (ra), the food of 75 million people will be adequate for 150 million people. So, if we can change our eating habits according the Prophetic advice, we shall have no food shortage in the country. Moreover, we shall not need to import food from abroad spending huge amount of foreign exchange. On the other hand, our health will remain fine, excellent and free from common diseases, and at the same time we shall not suffer from obesity.

The Prophetic advice of eating small meals on a regular schedule has a scientific basis. This has been reported in a study where researchers reveal that eating small, frequent meals is one of the best ways to control blood glucose levels, as this ensures a constant supply of glucose to the body. Skipping meals or eating at different times each day can make it difficult to keep your blood glucose levels stable. One should try to eat about the same amount of food at about the same time every day. If somebody is on the run, pack something that's easy to eat and portion-controlled, for example yoghurt, a sandwich, fruit, etc [20].

**Diabetes not incurable:** According to modern medical science, diabetes is currently seen as a controllable disease, not curable. But according to Prophet Muhammad(pbuh), diabetes is not incurable. Because, for every disease Allah has created He (Allah) has also created a suitable remedy. The Prophet (pbuh)said,



“Allah (God) did not send down a disease without having sent down its cure” (Bukhari and Muslim) [21-22].

The above Prophetic statement indicates that Allah (God) has already created remedies for every disease. No doctor created any disease or ailment. Doctors only discover or identify an illness on the basis of symptoms and manifestations and prescribe medicines. The Prophetic tradition further indicates that since diabetes is a disease, although disastrous and fatal, it is not incurable. In another Prophetic tradition narrated by Zaid ibn Aslam (ra), the Prophet (pbuh) said,

“.....He who has created disease has also created its remedy” (Za’adul Ma’ad and Mu’atta) [23-24].

From the above Prophetic statement, we understand that medicines for all diseases are there. Allah has created the remedies first, then the diseases. But medicines of all diseases are yet to be discovered by scientists. So, there is room for continued research. We must continue to make research to look for appropriate remedies for new ailments. Therefore, there is a tremendous need to choose the right medicine or herbs to improve glycemic control in diabetic patients.

**Black seed is a safe, inexpensive and effective Prophetic remedy for diabetes mellitus:** It has been reported that black seed is considered to be the safest and cheapest Prophetic remedy for the treatment of diabetes mellitus (DM). The Prophet (pbuh) made specific statements on 61 medicinal plants, herbs and shrubs, out of which black cumin (black seed) is the most important. About black seed Abu Hurayrah (ra) narrates that the Prophet (pbuh) said:

**"Hold on (use this seed regularly)! Because it is a remedy (cure) for every disease except death."** (Bukhari, 71: 591, 592 [25], Muslim [26], Ibn Mâjah [27] and Aḥmad [28])

This statement generated tremendous interest among the world scientific community. The scientists' concern was how an unlettered man of the desert without any pen and paper could make such a wonderful statement on medical science? The Prophet (pbuh) did not have to carry out any laboratory research to make this statement on medical science. The statement finally led the global scientists and researchers to carry out extensive phytochemical, pharmacological, microbiological and toxicological studies on black seed and its oil. Researches were conducted using intact animals as well as isolated animal tissues. However, it was amazing that the researchers after conducting hundreds of researches around the globe finally came to the conclusion that the Prophet's statement was found to be one hundred per cent true. Today we know through scientific researches that black seed can cure 129 different kinds of diseases including diabetes, AIDS and cancer [29]. This large number of diseases curable by black seeds demonstrates the authenticity of the Prophet's statement.

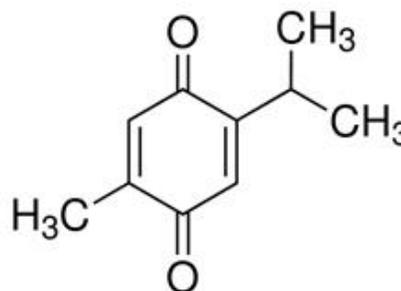
Although there were more than 400 herbs in use before Prophet Muhammad (pbuh), and recorded in the herbals of Galen and Hippocrates, black cumin or black seed was not one of the most popular remedies of that time. Since black seed is now considered a "remedy of the Prophet (pbuh), its usage and popularity have increased significantly. Today due to findings of extensive modern research carried out in various parts of the globe, many modern scientists classify it as all-in-one therapy, cure-all herb, a genuine universal remedy or a magical herb.



Black cumin plant flower



Black cumin seed



Thymoquinone (TQ) - bioactive compound

Black seed has been used for more than 2000 years for a wide array of diseases including diabetes, cancer, AIDS and Alzheimer's disease. Originally it was used for allergies, asthma and migraines, but as the world began to discover its many wonderful qualities, studies and research projects spread. In the last 50 years there have been more than 5000 studies done on this miraculous seed. Professor Peter Schleicher, M.D., a renowned immunologist in Munich said, "Calling black cumin a magical cure would certainly be an exaggeration, but it is almost impossible not to exaggerate its effectiveness" [30].

**Highest number of researches done on *Nigella sativa*:** Hussain M M (2017) in another article ('Prophetic chemo is the most inexpensive, safe and effective therapy for the cure of breast cancer') writes that *Nigella sativa* is the only plant on the face of the earth that has been investigated by a large number of modern scientists. Modern researches on *Nigella sativa* are so huge in number that one can easily verify using the literature and databases. We have found that PubMed Data and Resource Bank contain a lot of recent research citations. Usually for a medicinal plant on the average 10 to 200 scientific studies or more are carried out to determine the active principles responsible for the pharmacological effects, the efficacy in treating human ailments and chemical structures of the active constituents. But why there have been hundreds of research studies done on this tiny flowering plant? What is the reason of demonstrating such a tremendous scientific interest on this tiny seed?

From a quick search in the internet it is found that as of now the number of laboratory researches so far done on this blessed seed and its oil in various countries of the world has gone up to over 10,000. Everyday more and more research information is being added to research data bank. If one searches the research titles on *Nigella sativa*, black seed or black cumin or thymoquinone in all the journals published in various countries of the world he will be able to verify the truth. In fact, internet/websites are full of information about *Nigella sativa*, its benefits, uses, pharmacological effects and current research findings.

**Modern way of management of diabetes mellitus, type 1 and 2:** To properly manage type 1 diabetes, diet and exercise is the key. Regular exercise helps to control the amount of sugar in the blood, and helps to burn excess calories and fat to achieve and maintain a healthy weight. Meal planning for type 1 diabetics should be consistent to allow food and insulin to work together to help regulate blood sugar levels. Frequent snacking and small meals can help to keep blood sugar at a constant level, resulting in fewer symptoms for the diabetic. Several natural remedies can also help to heal some type 1 diabetics. So far, no single remedy has worked for all diabetics because of differences in body and lifestyles, but one may find one of the remedies that work for him. Internet information on how to manage or prevent diabetes is huge [31].

Type 2 diabetes usually occurs in older adults. However, it is now becoming more common in children and teens. Those with type 2 diabetes often are overweight and unfit. They cannot make enough insulin to keep their blood glucose in control. A meal plan for weight control and regular exercise is the first treatment to be tried [32].

#### **Published Research Work Concerning the Anti-Diabetic Property of *Nigella sativa***

***Nigella sativa* is an effective therapeutic agent in the management of Diabetes mellitus:** In April of 2011 at Department of Pharmacology and Montreal Diabetes Research Center, Université de Montréal, Montréal, QC, Canada showed that *Nigella sativa*'s anti-diabetic effect appeared to be rooted in the ability of the seed to improve insulin sensitivity. Researchers also found that just two grams daily of black seed could result in reduced fasting blood sugar levels, along with decreased insulin resistance, and increased beta-cell function in the pancreas. The water and alcohol extracts of *Nigella sativa* at low doses also have a blood-sugar lowering effect [33].

**Anti-diabetic properties of the seeds of *Nigella sativa*:** In recent years, a large number of pre-clinical and clinical researches have been carried out on *Nigella sativa* seed and thymoquinone (TQ), in order to assess their benefits in pre-diabetics and diabetics. In one such research it was found that apart from TQ, anti-diabetic activity has also been shown by black seed's aqueous extract and defatted extract. The research paper summarizes the properties of *Nigella sativa* seeds and their constituents in prevention and treatment of diabetes mellitus. The study reveals that black seed



causes gradual partial regeneration of pancreatic beta-cells, increases the lowered serum insulin concentrations and decreases the elevated serum glucose. The seed improves glucose tolerance as efficiently as metformin; a typical drug for type 2 diabetics, yet shows no adverse effects. They suggested that the dosage for Type 2 diabetes to be take two grams of black seed daily (one gm twice a day or two grams once a day) [34].

**Anti-diabetic properties of black seed oil:** It has been reported that black seed oil has been a powerful natural remedy for diabetes. It is due to its ability to significantly lower blood pressure and help both insulin and non-insulin dependent diabetes patients.

- It increases glucose-induced secretion of insulin.
- It reduces intestinal glucose absorption.
- The seed oil is an effective add-on therapy in patients with diabetes and dyslipidemia.
- Daily use affords improvement in daily glucose levels and HbA1c
- It also protects arteries and organs in other ways.

Researchers observed particular benefit in individuals with glucose intolerance as black seed oil increases glucose-induced secretion of insulin as well as reduces intestinal glucose absorption [35].

***Nigella sativa* oil has significant repairing ability of damaged pancreatic tissue occurs in induced type 1 diabetes mellitus:** *Nigella sativa* oil (NSO) was known as hypoglycemic agent in both types of diabetes but little is known about its ability of repairing the pancreatic damage occurred in T1DM. By intraperitoneal injection of a single dose of streptozotocin (STZ) (65 mg/kg), T1DM was induced in overnight fasted 24 rats. They were equally divided into four groups. Blood glucose was tested every morning through the experimental period. After completion the experimental protocol, blood samples were collected and serum insulin was assayed using ELISA.<sup>36</sup> The control group showed normal cells in pancreatic islet of Langerhans. The diabetic group with no treatment showed shrunken islets of Langerhans displaying degenerative and necrotic changes. Meanwhile, the treatment with low dose NSO protected the majority of cells in the islet of Langerhans. However, the high dose NSO treatment showed a similar morphology as in normal control group (GA), so that resulted in significant elevation of serum insulin level ( $p < 0.005$ ). The data suggests that NSO treatment has a therapeutic effect against STZ induced T1DM rats [36].

According to US FDA, metformin can cause a wide slew of side effects including diarrhea, bloating, stomach pain, gas, indigestion, constipation, unpleasant metallic taste in mouth, heartburn, headache, flushing of the skin, nail changes and muscle pain [37].

Similar research results were also reported by another team of researchers. An article in the April 2011 issue of the "Journal of Endocrinology and Metabolism" reaffirms that thymoquinone found in black seeds can prevent the development of type 1 diabetes and increase the insulin sensitivity of liver cells, which helps prevent type 2 diabetes [38].

**Black seed extract is more effective than glibenclamide in controlling diabetes and oxidative stress:** Leong et al. (2013) recently published a review article on "*Nigella sativa* and Its Protective Role in Oxidative Stress and Hypertension" in the Evidence-Based Complementary and Alternative Medicine. *Nigella sativa* (NS) and its active constituents have been documented to exhibit antioxidant, hypotensive, calcium channel blockade and diuretic properties which may contribute to reduce blood pressure. This suggests a potential role of NS in the management of hypertension [39].

**Scientists from Japan, Kuwait and Turkey studied the effects of *Nigella sativa* in the treatment of non-insulin dependent diabetes 2:** In 2002 researchers at the Gifu University, Japan, studied and concluded that black seed may be of significant value to sufferers of diabetes 2 [40].



In 1991 Kuwait University studied the mechanism of action for black seed whereby the researchers concluded that extracts may prove to be a useful therapeutic agent in the treatment of non-insulin dependent diabetes mellitus [41].

In 2003, three faculties in Van, Turkey came together and confirmed that black seed brought the lowered sugar level back to the control level in diabetic rabbits [42-43].

In 2004, the researchers at the Faculty of Medicine, Zonguldak Karaelmas University, Zonguldak, Turkey tested the effects of *Nigella sativa* on diabetic rats. They concluded that black seed treatment exerts a therapeutic protective effect in diabetes. The conclusion was the same as all other tests above [42-43].

In a recent study carried out at the Faculty of Pharmaceutical Sciences, G. C. University, Faisalabad, Pakistan and Riphah Institute of Pharmaceutical Sciences, Riphah International University, Lahore Campus, Pakistan [44], the researchers concluded that *Nigella sativa* not only improves the glycemic state but it also plays a significant role in the treatment of diabetes complications like neuropathy, nephropathy, cataract, dyslipidemia, cardiovascular disturbances, haematological abnormalities and atherosclerosis. Researchers further reported the following abstract of a scientific investigation carried out on *Nigella sativa* for the treatment of diabetes. The abstract published on January 2, 2017 in the British Journal of Pharmaceutical research reads as follows:

*Nigella sativa* is considered as a miracle drug. Although there is a list of many diseases which can be treated by it but role of *Nigella sativa* seeds in treatment of diabetes is substantially important. It has been reported that there are multiple classes of anti-diabetic agents which ameliorate the hyperglycemia by different ways. On the other hand, *Nigella sativa* as a single drug acts through multiple pathways to achieve normoglycemia. For instance, it enhances insulin production, glucose tolerance and beta cell proliferation. It reduces pancreatic inflammation, gluconeogenesis and glucose uptake from intestine. Interestingly, *Nigella sativa* not only improves the glycemic state but it also plays a significant role in the treatment of diabetes complications like neuropathy, nephropathy, cataract, dyslipidemia, cardiovascular disturbances, haematological abnormalities and atherosclerosis. Researchers concluded that *Nigella sativa* improves the hyperglycemia by acting on multiple organs [44].

***Nigella sativa* inhibits intestinal glucose absorption and improves glucose tolerance in rats and is as potent as metformin:** Researchers in the Laboratory of Pharmacology and Toxicology, Faculty of Medicine and Pharmacy, Université Mohammed V-Souissi, Rabat, Morocco studied the effects of the crude aqueous extract of *Nigella sativa* seeds, which have been used traditionally for centuries for treating diabetes, on intestinal glucose absorption *in vitro* using a short-circuit current technique and *in vivo* using an oral glucose tolerance test.

Researchers reported that the aqueous extract of *Nigella sativa* (0.1 pg/ml to 100 ng/ml) exerted dose-dependent inhibition of sodium-dependent glucose transport across isolated rat jejunum. Maximal inhibition exceeded 80% and  $IC_{50}$  was close to 10 pg/ml. An oral glucose tolerance test was carried out in rats after the initial dose and after a 6-week treatment of *Nigella sativa* (2 g/kg day), and compared to metformin (300 mg/kg day). Chronic *Nigella sativa* treatment improved glucose tolerance as efficiently as metformin. Both *Nigella sativa* and metformin also reduced body weight without any toxic effect. Researchers further said, this is the first demonstration that *Nigella sativa* directly inhibits the electrogenic intestinal absorption of glucose *in vitro* and assumed that the seed is as potent as metformin. Scientists further observed improvement of glucose tolerance and body weight in rats after chronic oral administration *in vivo*. These effects further validate the traditional use of *Nigella sativa* seeds against diabetes [45].

**Black seed oil showed greater effectiveness at reducing blood sugar levels than glibenclamide:** Ikram and Hussain (2014) conducted a study to investigate the anti-diabetic efficacy of extracts of *Nigella sativa* seeds and to compare it with that of glibenclamide (glyburide). Glibenclamide was used as a reference anti-diabetic drug, which enhances insulin secretion from islet cells and thus promotes hypoglycaemia and hypolipidaemia. The researchers concluded that *Nigella sativa* extracts have curative effects in terms of diabetes-induced disturbances of glucose and lipids [46].



Mahmood (2012) of the Dept. of Anatomy, College of Medicine, Tikrit University, Iraq carried out histological study using *Nigella sativa* and glibenclamide. The results of the study showed that diabetic kidney changes may be protected by administration of *Nigella sativa* extract. The extract possibly acts as an antioxidant, thereby checking the oxidative damages to the microstructure of the kidney. The scientist concludes that *Nigella sativa* therapy causes renal morphologic and functional improvement after alloxan-induced diabetes in rats [47].

Another study was conducted by a team of researchers in 2015 to investigate the effects of hydroalcoholic extract of *Nigella sativa* seed on oxidative stress in STZ-induced diabetic rats' hippocampus. Thiol content of hippocampus increased by 200 mg/kg *Nigella sativa* extract in comparison to untreated diabetic group ( $p < 0.05$ ). Malondialdehyde content of hippocampus reduced by *Nigella sativa* extract, 200 mg/kg ( $p < 0.001$ ), 400 mg/kg ( $p < 0.05$ ), and metformin ( $p < 0.05$ ) in comparison to the untreated diabetic group. The results of the study showed that hydroalcoholic extract of the *Nigella sativa* decreased oxidative stress in hippocampus of the STZ-induced diabetic rats. *Nigella sativa* at the dose of 200 mg/kg was more effective to reduce oxidative stress in hippocampus of rats [48].

**A most recent review work on *Nigella sativa*:** A team of researchers from Saudi Arabia, India and Oman [49] recently published an article on 'A Review on Therapeutic potential of *Nigella sativa*: A miracle herb'. They say that this herb is considered very popular in various traditional systems of medicine like Unani and Tibb, Ayurveda and Siddha. They also reveal that both the seeds and oil have a long history of folklore usage in various systems of medicines and food. The review provides a detailed survey of the literature on scientific researches done on *Nigella sativa* from all over the world. The researchers hoped that the scientific data in this article will help the researchers to get updated information about *Nigella sativa* [49].

Researchers opined that in Islamic literature, *Nigella sativa* is considered as one of the greatest forms of healing medicine, which has been recommended for regular use. The researchers revealed that extensive studies on *Nigella sativa* have been carried out to explore various pharmacological potentials which include antidiabetic, anticancer, immunomodulator, analgesic, antimicrobial, anti-inflammatory, spasmolytic, bronchodilator, hepatoprotective, renal protective, gastro-protective, antioxidant properties, etc. They further revealed that TQ, some of its analogues and alpha hedrine are the major chemical constituents are responsible for the therapeutic potentials of black seeds. The researchers concluded by saying that due to its miraculous power of healing, *Nigella sativa* has got the place among the top ranked evidence based herbal medicines [49].

**Black cumin improves insulin production and sensitivity:** Michelle Marks [50] posted an article on the internet on black cumin. He reveals that black cumin lowers high blood glucose levels and improves insulin production and sensitivity. He reports that animal studies showed that black cumin was able to lower blood glucose levels in two other ways. First, black cumin triggers the secretion of insulin from pancreas and, second, by enhancing the sensitivity of insulin in skeletal muscles, liver cells and also increased glucose uptake by muscular tissues. The presence of the phytonutrient, thymoquinone is the key factor in cumin's glucose-lowering effect. In addition, they also contain B vitamins and minerals – calcium, zinc, copper and iron. The seeds have been used, for centuries, to cure many diseases including diabetes. Even modern science now proves the healing power of black seed like, in the case of cataract formation – which is common in diabetics [50].

A 2009 study published in the Journal of Nutrition Biochemistry revealed that black seeds were very effective in delaying the progression of cataracts in diabetic rats. The seed is also effective in decreasing the advanced glycation products, which if left unattended leads to complications like kidney or liver damage [51].

***Nigella sativa* seed extract prevents hyperinsulinemia, impaired glucose tolerance, insulin resistance and improves hyperglycemia:** Shamshun Nehar et al (2015) recently studied the effects of ethanolic extract of *Nigella sativa* seed extract on insulin resistant non-insulin dependent diabetic (NIDDM) guinea pigs. They observed significant decrease in blood glucose level and glycosylated haemoglobin in animals treated with ethanolic extract of



*Nigella sativa*. In addition, improvement in glucose tolerance, insulin level and insulin sensitivity was observed in treated diabetic animals. The results were more significant in animals treated with higher dose of *Nigella sativa* seed extract (500mg/kg BW) as compared to lower dose of extract (250 mg/kg BW). Protective effect of *Nigella sativa* seed extract was comparable to the standard drug (i.e., glimepride). Therefore, it is concluded that *Nigella sativa* seed extract might prove beneficial in preventing hyperinsulinemia, impaired glucose tolerance, insulin resistance and eventually an effective means of improving hyperglycemia, without any toxic effect at the doses studied in the present study [52].

#### **Animal Studies and Human Trials Conducted using *Nigella sativa***

*Nigella sativa* has been safely given to human patients in many clinical trials, which were aimed to assess anti-diabetic property and other pharmacological activities. From these studies researchers concluded that *Nigella sativa* seeds (NSS) and *Nigella sativa* oil (NSO) possess antidiabetic activity. This activity is reported to be at least partly, is mediated by stimulated glucose induced insulin release from beta-cells, reduced gluconeogenesis in liver, antioxidant activity and reduced glucose absorption from intestine. Animal experiments have found use of *Nigella sativa* seeds, NSO and its constituents including TQ, safe in appropriate doses [38].

*Nigella sativa* seeds have also been used in clinical trials for diseases other than diabetes. Researchers finally opined that *Nigella sativa* seeds should be studied in safe doses, in human patients of diabetes mellitus and other ailments through well designed clinical trials.

***Nigella sativa* clinically tested satisfactorily in 2010 and 2011:** Recently clinical studies using human volunteers have been carried out at King Faisal University using *Nigella sativa* in the treatment of diabetes 2. In 2010 at the Department of Physiology, College of Medicine, King Faisal University Dammam, Saudi Arabia showed an improved glycemic control in diabetic patients with type 2 Diabetes.

This study tested 1, 2, and 3 grams of *Nigella* seeds combined with diabetic medicine. There were 94 patients studied for a period of 3 months. The effect of *Nigella sativa* on the glycemic control was assessed through measurement of fasting blood glucose (FBG), blood glucose level 2 hours postprandially (2 hPG), and glycosylated hemoglobin (HbA1c). The study found that the consumption of one gram of black seed a day for up to 12 weeks had a broad range of beneficial effects in diabetics, including increasing beta cell function. The end results showed that patients who took 2 grams of *Nigella sativa* seeds in capsule form had the highest success rate. The study concludes that a dose of 2 gm/ day of *Nigella sativa* might be a beneficial adjuvant to oral hypoglycemic agents in type 2 diabetic patients. Although all the three doses showed improvement, 2 gm /day provided the best result [53].

**Researchers reveal that black seed oil cures both type 1 and 2 diabetes:** Researchers from the Indian Council of Medical Research explained in a recent article published by the Journal of Endocrinology and Metabolism, highlight that black seed oil “causes gradual partial regeneration of pancreatic beta-cells, increases the lowered serum insulin concentrations and decreases the elevated serum glucose.” The scientists continued that this is actually quite profound because *Nigella sativa* is one of the few plants on the planet that is suggested to help prevent both type 1 and type 2 diabetes. They reported that two grams of black seed a day resulted in reduced fasting glucose, decreased insulin resistance, increased beta-cell function, and reduced glycosylated hemoglobin (HbA1c) in human subjects. In fact, according to the study, black seed “improves glucose tolerance as efficiently as metformin; yet it has not shown significant adverse effects and has very low toxicity!” This is a huge advantage of black seed, because metformin (a commonly prescribed type 2 anti-diabetes drug) can cause a wide variety of side effects [38].

***Nigella sativa* cures obesity:** The Journal of Diabetes and Metabolic Disorders published a study last June systematically reviewing the literature for plants that have anti-obesity properties and discovered that black seed oil was amongst the most effective natural remedies on the planet. Not traditionally believed to treat obesity, *Nigella sativa* is a marvelous anti-inflammatory agent that is known to help people lose weight in the same way that it helps diabetics—by decreasing weight gain triggers [54].



In 2010 Benhaddou-Andaloussi and colleagues published their study in the Journal of Diabetes, Obesity and Metabolism about the anti-diabetic effect of *Nigella sativa* seed extract in skeletal muscle, adipocyte and liver cells [55].

**Indian scientists find *Nigella sativa* oil very effective in patients of insulin resistance syndrome:** A clinical study was undertaken to know the adjuvant effect of *Nigella sativa* oil on various clinical and biochemical parameters of the insulin resistance syndrome. This prospective study was conducted at a tertiary health care center in North India. After confirmation of diagnosis, 60 patients who fulfilled the inclusion and exclusion criteria were enrolled in this study.

The patients were divided into two groups of 30 each. In group I (the standard group), patients were advised tablet atorvastatin 10 mg once a day and tablet metformin 500 mg twice a day for a period of 6 weeks. In group II (the *Nigella sativa* group), the patients were advised tablet atorvastatin 10 mg once a day, tablet metformin 500 mg twice a day, and *Nigella sativa* oil 2.5 ml twice daily for a period of 6 weeks. Fasting and postprandial blood glucose, fasting lipid profile, and waist circumference were recorded before therapy and after completion of therapy. Researchers concluded that *Nigella sativa* oil was found to be effective as an add-on therapy in patients of insulin resistance syndrome. The oil has a significant activity in diabetic and dyslipidemic patients. The results of the study were statistically significant. Additionally, it also protects arteries and organs in other ways [56].

A 2003 animal study found that black seed consumption lead to partial regeneration/proliferation of the beta-cells. The study concluded that the hypoglycaemic action of *N. sativa* L. could be partly due to amelioration in the beta-cells of pancreatic islets causing an increase in insulin secretion. More studies are needed to demonstrate the exact mechanism of action of *N. sativa* L. on ameliorated blood glucose concentration in STZ-induced diabetes [57].

**Studies in Morocco and Jordan for the use of *Nigella sativa*:** *Nigella sativa* has traditionally been used in Morocco and Jordan to treat diabetes as well as hypertension. Several research studies have confirmed that black seed oil helps in stabilizing blood sugar levels in diabetics while also stimulating pancreatic function. Both animal and human trials have discovered its potential in treating type 2 diabetes. Researchers conclude there is no doubt that black cumin seed oil possesses anti-diabetic activity [58].

In recent years, large number of clinical studies has been carried out on pharmacological actions of *Nigella sativa* and the bioactive compound Thymoquinone (TQ). Ootom SA *et al.* [59] report that *Nigella sativa* has been traditionally used for treatment of diabetes and hypertension in south-eastern Morocco and Jordan. A cross sectional survey of 310 diabetic patients in Jordan revealed 7.3% of them used *N. sativa* for diabetes.

**Clinical trials done in Indonesia:** In a study reported by Datau EA *et al* [60], *Nigella sativa* has been safely given to human patients in some clinical trials. A double blinded, placebo controlled experimental clinical trial was carried out in Indonesia, on adult men with central obesity. The human trial was aimed to study the efficacy of *Nigella sativa* in central on serum free testosterone, body weight, waist circumference, blood sugar, lipid, uric acid, adiponectin, hs-CRP, and side effects.

Najmi *et al* [56] studied the effects of a dose of 1.5 gm of black seed powder (in two capsules) given twice a day for three months to some human subjects. The study reported highly significant reductions in body weight, waist circumference and systolic blood pressure. However, reductions in fasting blood sugar, serum free testosterone, diastolic blood pressure, triglyceride etc. were not significant. They revealed that the reductions could probably be due to smaller dose of *Nigella sativa* used in this trial. It was earlier reported in some other studies that 1 gm of the powder twice a day gave significant results. No side effects were detected in the treatment group. In another clinical trial addition of NSO 2.5 ml twice daily to Atorvastatin 10 mg/day and Metformin 500 mg twice daily therapy resulted in significant improvement with reference to total cholesterol, low-density lipoprotein cholesterol (LDL-C), and fasting blood glucose.



Kapoor [35] reports that *Nigella sativa* may be of therapeutic benefit in diabetic individuals and those with glucose intolerance as it accentuates glucose-induced secretion of insulin besides having a negative impact on glucose absorption from the intestinal mucosa.

**Superiority of *Nigella sativa* over the anti-diabetic drug glibenclamide:** Recently in a study Victor Marchione, (2011) reports about the healing effects of *Nigella sativa* in the treatment of diabetes. The research team investigated the effect of an extract of cumin seeds on diabetes and oxidative stress. He further reveals that cumin has other great health properties. In a separate article, he reports that this Spice is a Great Antioxidant. The team also compared results from the cumin extract and a common diabetes drug, glibenclamide [61].

Diabetic rats were given either the cumin seed extract or glibenclamide for 28 days. The researchers found that both treatments caused a reduction in blood glucose, creatinine (a waste molecule that can build up in the kidneys) and blood urea nitrogen. Both treatments also improved insulin and glycogen (liver and skeletal muscle) content when compared to diabetic control rats. When it came to preventing oxidative stress, the cumin seed extract and glibenclamide began to show differences. The cumin seed extract caused a significant reduction in renal oxidative stress compared to the diabetic controls and glibenclamide [61].

Sayer Ji reported about the so-called 'incurable disease' that afflicts millions of people around the world is type 1 diabetes." In 2013 he posted an article on the web about black seed, *Could the long-sought after cure for type 1 diabetes be as close as your kitchen cupboard? An accumulating body of scientific research appears to point in exactly that direction.* Wednesday, June 26<sup>th</sup> 2013. This article is copyrighted by GreenMedInfo LLC, 2015 [62].

Nabila E A *et. al* [63] investigated the effects of *Nigella sativa* aqueous extract and oil, as well as thymoquinone, on serum insulin and glucose concentrations in streptozotocin (STZ) diabetic rats. The aqueous extract of *Nigella sativa* also reversed these effects of STZ, but to a lesser extent. *Nigella sativa* oil restored normal insulin levels, but failed to decrease serum glucose concentrations to normal. The researchers concluded that the biochemical and ultrastructural findings suggest that *Nigella sativa* extract and thymoquinone have therapeutic and protect against STZ-diabetes by decreasing oxidative stress. Researchers opined that the hypoglycemic effect observed could be due to amelioration of  $\beta$ -cell ultrastructure, thus leading to increased insulin levels. They further reported that *Nigella sativa* and thymoquinone may prove clinically useful in the treatment of diabetics and in the protection of  $\beta$ -cells against oxidative stress [63].

**Dosage requirements for treating diabetic patients:** Two studies recommend that 2 grams of *Nigella sativa* seeds were used to the highest success. Two grams of seeds is equal to 2 to 3 capsules of ground seeds. The seeds need to be cleaned, washed, dried, warmed and then ground. The ground seeds were not mixed with any ingredient. The seeds were taken in capsule form. It is always the best to look for vegetarian or halal capsules, avoiding all pork residue type gelatin capsules.

*Nigella sativa* seed oil can be used if desired. The oil is 2 1/2 times stronger than the seed. The oil is not heated and must be taken on an empty stomach. If you are taking the oil, it is best to take the oil in capsule form or straight from the bottle. One suggested dosage for the black seed oil is to take 2 teaspoons of the oil at three different times of the day for seven days. Then take 2 teaspoons in the morning and 2 in the evening for 4 days. Follow by taking 1 teaspoon of the oil once a day for two days. Take plenty of water in the morning and rub the oil all over the body for 10 days. One may mix the oil with fruit juice. Repeat this treatment if one does not see any improvement.<sup>64</sup> *Nigella sativa* helps to regulate the blood and keep your levels at a normal range. It can be taken in conjunction with prescribed diabetic medicine, but in order to be effective, you must follow a prescribed diabetic diet. Many people have had great success on a low carb diet, such as Drew Carey. Recently one woman reversed her symptoms in only 10 days on a vegan diet [64-65].

### Results of Review Study and Discussion

The information mentioned in the above pages clearly indicates the extent of research work done on *Nigella sativa* for the treatment of diabetes. Global scenario dictates us that there is an urgent need for introducing alternative



therapies in the public health sector so that hospitals can handle a huge number of diabetic patients every day. Facilities in the local hospitals in most cities are not adequate to treat this large number of diabetic patients every day. On the other hand, diabetic patients too are looking for anti-diabetic drugs that are harmless and inexpensive. The diabetic patients are now reluctant to continue taking anti-diabetic drugs for a long time. Therefore, *Nigella sativa* can be the drug of choice for the management of diabetes because both *Nigella sativa* and its active principle thymoquinone are among the safest phytochemicals. *Nigella sativa* seed powder does not produce any toxic effects even at very high doses (28 gm/kg orally) in rabbits [66].

In addition, modern anti-diabetic medicines are very expensive, which patients from the poor and under privileged classes find it difficult to afford. The cost of insulin injection is also high. This drug needs constant storage in the refrigerator prior to parenteral administration. On the other hand, the cost of black seed is very low. With only two dollars (Tk.160) patient can buy adequate quantities of black seed which can be used over a long period of three months or so. Therefore, on the basis of the statement of the Prophet Muhammad (pbuh) that **black seed is a cure for all diseases except death**, we strongly recommend black seed therapy for the management and treatment of diabetes mellitus<sup>2</sup>. We should not wait for approval of FDA or WHO to begin using this medication. However, if one decides to use whole seed, it is advisable to wash the black seed purchased from the market to remove dust, dirt and other adulterants, wash it with water, dry it in the sun and then heated on a woven on a low temperature for about 30 minutes to remove bitter taste responsible for stomach upset. It can be then kept in a dry bottle for frequent use. We strongly opine that it is the demand of the time that implementation of divine cure for this epidemic disease should be done by every nation without any delay.

According to WHO 75 per cent of the world population use traditional and alternative medicine, which are mostly herbs and shrubs to cure different ailments. Prophetic medicine is one of such alternative cures. Literature reveals numerous plants have been used as traditional medicine for the treatment of diabetes. Some of these plants have been tested pharmacologically and shown to have anti-diabetic effects. *Nigella sativa* is one of such plants. We call it Prophetic Medicinal Plant because it appeared in the traditions of the Prophet 14 centuries ago.

**Diabetes is curable, but aging is incurable:** The Prophet (pbuh) further said, as narrated by Usama ibn Sharik (ra), **“I was with the Prophet when some Arabs (Bedouins) came to him and said: O Messenger of Allah, should we seek medicine? He said: Yes, O servants of Allah, seek medicine, for Allah has created a cure for every disease that He has created, with the exception of one illness. They asked: What is that? He responded: Old age”** (Abu Dâwood [67], at-Tirmidhi [68], Ibn Mâjah [69] and Mustadraq [70]).

From the above Prophetic tradition, we come to know that diabetes is curable, but aging is not. Some scientists say that aging is not a disease. But we do not agree with them. This is because, according to the Prophet (pbuh), it is a disease but untreatable, incurable. Symptoms of old ages can be treated to some extent, but aging cannot be treated. One can slow down the aging process with the help of some antioxidants, good quality foods, exercise, regular walking etc. but none can prevent it. One can change the grey colour of his hair black with a dye to look young, but he cannot recover the strength and energy he had while he was young.

Prophet Muhammad (pbuh) further said, **“Every disease has a medicine, and when the proper medicine is applied to the disease as per diagnosis, the disease gets healed by the will of Allah”** (Muslim) [71].

Therefore, since diabetes is a disease, it is curable if right medicine is taken in right doses. Indeed, there is an effective Prophetic remedy for the cure of diabetes type<sup>2</sup>. Recent research shows that Prophetic medicine can effectively cure diabetes mellitus within three to six months without causing any harmful side effects.

The Health Policy of the Prophet (pbuh) ensures how to preserve one's health free from pollution and malnutrition and protect it from damage, deterioration and destruction. The aim of Prophetic medicine is therefore to ensure that our health shall always remain fine and excellent as long as we are alive. Using medicine, we cannot prevent death and remain alive for an indefinite period of time. On the other hand, if we follow Prophetic lifestyle we shall not be frequently attacked with diseases and at the same time suffer from obesity. As a result, our OPE (out of pocket expenses) for healing will be much less. So, if there is a divine remedy that can cure all ailments except



death, then why shouldn't we accept it with reason and introduce it in the public health sector as the best medicine for the treatment of diabetes.

### **Conclusion**

Diabetes is a silent killer. Every year millions of people around the globe are dying because of the complications of the ailment. The disease was not created by any man, doctor or medical scientist. Hence doctors find it difficult to cure this ailment with all the available man-made anti-diabetic drugs. Therefore, we think divine remedies should be allowed to play a vital role in reversing the trend. If we use the divine remedy we shall undoubtedly get rid of this fatal ailment. Since the ailment has been created by God, He has also sent down its remedy. Therefore, in view of the partial healing benefits of modern anti-diabetic drugs and their reported side effects and positive research results using black seed we strongly recommend that let black seed be considered as the safest, cheapest and most effective alternative to modern medicine for the management and treatment of diabetes mellitus 2. We hope the information available in this article can be a major break-through in global diabetes research and the management of The Pharmaceutical and Chemical Journal can play a pivotal and central role in spreading the message of this divine remedy for the cure of diabetes to the global scientific community.

It is our candid opinion that there is an urgent need for introducing alternative anti-diabetic therapy to strengthen the public health sector so that ordinary people can have access to diabetes treatment facilities and services at affordable or no cost. Out of the alternative therapies we recommend black seed therapy prescribed by Prophet Muhammad (pbuh) for all diseases, of which diabetes is one. Therefore, it is the demand of the time that in order to strengthen and expand the public health sector in every land implementation of this divine cure for eradication of this fatal disease should be done without any delay.

In conclusion, we urge the world class medical scientists of the developed countries to conduct systematic and organized clinical trials with black seeds or its oil in a disciplined fashion without wasting any time. In view of the researches done so far, we are convinced that on the basis of the reports of clinical trials, WHO and FDA would approve it as commercial drugs for the treatment of diabetes mellitus (DM) 2 without any patent right for the interest of health of the humankind. We are committed to bring tangible benefits to the ailing community where we live in so that the sufferings of the sick can be alleviated and mitigated. It is needless to say that by introducing this inexpensive, affordable, safe and effective Prophetic remedy in the public health sector, we hope we shall be able to receive divine blessings God willing, and nothing else. The world does not belong to a particular human community. It belongs to all of us. Let's put our hands together and utilize the God-gifted talents, wisdom and intellect to change the world. We hope the millions of diabetic patients of the world will get rid of the disease and its complications using this divine remedy at no cost, and live happily and peacefully for the rest of their life.

### **Conflict of Interests**

There is no conflict of interests to declare.

### **Acknowledgement**

Nil

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