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# Analysis of Correlation of Medicine Doges, Physical Activities and Food Intake in Diabetics

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***Abstract – Health nutritional therapy is an important part of diabetes treatment and self-management preparation. And there are also myths about diet and diabetes. In clinical practice, dietary guidelines have been and are now being produced for people with diabetes, with little too little compelling data. This position statement also offers evidence-based principles and guidance regarding medical diabetes dietary therapy. Because of the complexities of nutritional problems, a licensed dietary therapist, experienced and qualified in nutrition therapy administration and education is suggested as a part of the medicinal nutrition therapy team. However, both team members need to be mindful about diet counselling to support the individual with diabetes who wants to make improvements about their lifestyle.***

***Keywords: Medicine Doses, Physical Activities, Food Intake in Diabities;***

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## INTRODUCTION

The signs of a good person are physical and emotional well-being, and relief from illnesses and suffering. Health is prosperity is a fitting proverb since you can't enjoy a holistic existence without health. Factor in encouraging and preserving good health are food and nutrition. During the last decade, rapid expansion in many related science areas and particularly population-based epidemiological data have helped to stress that urgent and efficient intervention has been required to avoid and monitor morbidity and premature mortality from non-communicable diseases. Surveys also reveal that diabetes mellitus dominates the roost of all non-communicable illnesses.

Diabetes applies to any condition of abnormal urinary discharge. The term "diabetes" simply means "syphon" or "transmit". Diabetes mellitus is a progressive inherited disorder with abnormally high blood glucose levels and elevated urinary glucose. The underlying defect seems to be an actual or relative insulin deficiency that contributes to defects in the metabolism of carbohydrates, protein and fat metabolism, in particular. Extreme untreated diabetes may contribute to fluid and electrolyte metabolism disorders. Helping to prepare and consider a daily diet that includes the required quantities of carbohydrates, nutrition, fat and fiber together with ample amounts of vitamins and minerals therefore people with diabetes mellitus need.

## OBJECTIVES

1. To study about the effect of physical activities on diabetes
2. To study about the effect of medicine doses in diabetes.
3. To analyze the energy and macronutrient food intakes of the subjects in Group I patients of diabetes.
4. To analyze the energy and macro nutrient food intakes of the subjects in Group IIpatients of diabetes.
5. To analyze theenergy and macronutrient food intakes of the subjects in Group IIIpatients of diabetes.

## EFFECT OF PHYSICAL ACTIVITIES ON DIABETES

For people with diabetes — or virtually any other illness — fitness effects cannot be exaggerated. Exercise can regulate weight, reduce blood pressure,lower unhealthy LDL cholesterol, increase the volume of safe HDL cholesterol, reinforce muscles and bones, decreasing tension

and improving the overall well-being. Additional advantages for those with diabetes are added: exercising decreases blood glucose levels and improves the body's insulin response, countering insulin resistance.

Many reports illustrate these and other fitness advantages. Here are few highlights of the results:

- Exercise reduced the values of HbA1c by 0.7 percentage point for people from diverse ethnicities with diabetes who took varying drugs and a number of diets — and this change happened even though they lost no weight.
- Both types of exercise, aerobics, resistance or both (combined exercises) were equally effective at minimizing diabetes HbA1c values.
- Resistance and exercise have helped reduce insulin resistance among chronically sedentary older adults at risk for diabetes with abdominal obesity. The mixture of two kinds of workout was more advantageous than performing one individually.
- Diabetes patients who go for at least two hours a week were less likely than their sedentary peers to die from cardiac illness and patients who were exercised for three to four hours a week were more likely to decrease their risk.
- Females with diabetes with mild (including walking) to intensive activity for at least four hours a week have a 40 percent reduced chance of contracting coronary problems than those with heart failure. Even researchers accounted for contributing variables such as BMI, alcohol, and other risk factors for cardiac attacks, these advantages remained.

In general, one to three hours after breakfast, when the blood sugar level is typically higher, is the safest time to train. It is necessary to monitor your blood sugar before exercise if you use insulin. If the activity amount is less than 100 mg / dL, consuming a slice of fruit or taking a quick snack can increase it and help reduce hypoglycemia. Another 30 minutes later test would indicate that the blood sugar level is steady. It's also a smart idea to monitor your blood sugar during particularly difficult exercises or events. If you take insulin, the chance of hypoglycemia could be 6 to 12 hours higher after you exercise. Experts are often mindful not to exercise if the blood sugar is too high (over 250), because exercise can also increase much more blood sugar.

Due to the complications of diabetes, wear a warning band to show if you have diabetes and that you take insulin. Holding your sweets or glucose pills with you through your exercise if your blood sugar decreases rapidly.

**Fuel metabolism during exercise**

Mobilization of fuel, development of glucose and muscle glycogenolysis.

Maintaining regular BG during rest and exercise relies primarily on the synchronization and alignment of the nervous and endocrine systems. Contracting muscles improve absorption of BG, even though glucose output by liver glycogenolysis and gluconeogenesis, and mobilization of substitute sources such as free fatty acids (FFAs), normally retains BG amounts.

Various variables impact fuel usage, but the rate and length of PA are the most significant. Both behaviors contribute to a change from the prevailing dependency on FFA at rest to an amino acid mixture of fat, glucose, and muscle glycogen. If the degree of exercise rises, carbohydrate dependence is higher if long as adequate quantities of muscle or blood are accessible. Glycogen offers the majority of the food for functioning muscles early in exercise. The loss of glycogen reserves improves the uptake of muscles and the usage of circulating BG together with adipose-released FFA. Intramuscular lipid stores are used during longer life and regeneration. The development of glucose often changes from hepatic glycogenolysis to increased gluconeogenesis with growing length.

## POST EXERCISE GLYCEMIC CONTROL/BG LEVELS

**Aerobic exercise effects**

During a moderate-intensity exercise for non-diabetics, the increase in peripheral uptake of glucose is equated with an equivalent increase in hepatic glucose output which results in BG not changing except during extended exercise. In people who have type 2 diabetes with mild activity, the muscle usage of BG normally improves over the output of hepatic glucose, and the amounts of BG normally decrease. Plasma insulin levels typically decrease, though, which minimizes the chance of hypoglycemia triggered by exercise in someone who does not take insulin or insulin secretagogin, except with extended PA. The results of one single aerobic workout differ with time, strength and corresponding diet; one session improves the activity of insulin and tolerance of glucose for more than 24 hours but less than 72 hours. The results of mild aerobic activity are identical when the PA is done in one or more sessions of the same overall length.

Plasma catecholamine levels grow markedly after a fast, vigorous aerobic workout, contributing to substantial rises in glucose intake. Such hyperglycemia will occur and continue up to 1–2 hours because the plasma catecholamine and glucose production do not instantly return to normal when the operation is stopped.

**Resistance exercise effects**

The acute effects of a single exercise in tolerance to BG and/or insulin in people with type 2 diabetes were not identified. Individuals with IFG (BG 100–125 mg / dl) can encounter tolerance to lower fasting BG levels 24 hours after exercise with greater decreases in reaction to both volumes (multiple-set versus one-set sessions) and frequency (vigorous versus moderate) of exercise.

**Combined aerobic and resistance and other types of training**

For BG treatment, a combination of aerobic and resistance training could be more successful than any workout alone. Any improvement in muscle mass which may result from a strength training may help absorb GB without modifying the inherent ability of the muscle to react to insulin while aerobic exercise improves its absorption by enhancing insulin intensity regardless of changes in muscle mass or aerobic ability. However, all the hybrid training mentioned had a greater overall exercise time and caloric consumption than when each form of training was carried out alone. Mild strength activities including tai chi and meditation were also studied with mixed findings for their ability to enhance the treatment of BG. While Tai Chi can contribute to increases in BG levels at short notice, results from long-term training (i.e. 16 weeks) do not tend to last 72 hours after the last session. Some research reported lower average BG levels with greater involvement in such events, while others did not. One research has shown that the advantages of Yoga for fasting BG, lipids, oxidative stress and antioxidant are at the very least equal to more traditional types of PA. However, a meta-analysis of yoga research reveals that the drawbacks of most research such as limited sizes and various yoga styles prohibit strong assumptions on the value of diabetes treatment.

## EFFECT OF MEDICINE DOSES IN DIABETES

To manage your condition, many people with type 2 diabetes use diabetes medications. There could be adverse effects, as other medications, and we studied last week at the Diabetes Forum to see what the Audience is thinking and how diabetes type 2 treatment impacts them.

For this week we did not have insulin, diabetes just or diabetics with type 2.

## TYPE 2 DIABETES DRUGS

Diabetes drugs help patients with type 2 diabetes / gustative diabetes manage steady blood glucose levels alongside a balanced diet and workout schedule.

A number of different diabetes medications of a different purpose are available. Some patients with diabetes need to take more than one form of pill, and others use drugs that combine two kinds of medicine in one capsule.

Few individuals have a host of side effects from multiple diabetes medications.

Got a question on medicines for diabetes and medicines?

- Doctors in the UK can recommend several different diabetic prescriptions. The doctor can adjust the medicine; adjust you to injections, or change you to insulin based on how you react to the medicinal medicines you are prescribing.
- When you are shot, that normally indicates you use that to meet your objectives for blood glucose. The diabetes treatment that best fits for you will rely on your particular conditions, body, diabetes regimen, diet and exercise, etc.

## DIABETES DRUG SIDE EFFECTS

A side effect is an unpleasant condition induced by a drug. Unfortunately, some diabetes medication includes common side effects such as nausea or stomach upset. Your doctor can advise you on certain side effects and how best to prevent them.

No diabetic patients should suffer as a result of side-effects, and if you suffer from side-effects you should contact your doctor immediately. Side effects are mostly only temporary for diabetes medications, such as Metformin.

## POTENTIAL SIDE EFFECTS OF COMMON DIABETES DRUGS

- **Sulfonylureas:** Blood sugar, stomach upset, skin rash or itching, weight gain
- **Biguanides/Metformin:** Alcohol sickness, kidney complications, stomach discomfort, exhaustion or dizziness, metal taste
- **Alpha-glucosidase inhibitors:** Gas, diarrhea and bloating

- **Thiazolidinediones:** Gain in weight, risk of liver disease, risk of anemia, swelling of legs or ankles, Meglitinides: gain in weight, low blood sugar.

Lists of side effects may not be accurate, please consult with your doctor for more details on side effects of diabetes.

## REVIEW OF LITERATURE

In a further research by **Raju et al. (2001)** a substantial reduction in fasting blood glucose diabetic rats was observed by about 300 mg percent after 21 days of administering seed powder.

**Vats et al. (2002)** T's hypoglycemic effect was investigated. frenum graecum and other herbs showed a significant reduction of fasting blood glucose by around 15 mg percent in normal blood and about 80 mg percent in diabetic rats.

**Nazila Kassaian et al, (2004)**In a report on 24 adults with type 2 diabetes, 10 g of powdered fenugreek seeds mixed in yoghurt were treated for 8 weeks or were immersed in hot water. In an analysis of the 18 people who finished the study, significant reductions of fasting sugar in fenugreek seeds in hot water have been noted but not in subjects treated with fenugreek seeds mixed with yoghurt.

**Abha Saxena et al, (2004)**A wheat bread containing fenugreek was evaluated in a double blind, placebo-controlled and cross-checking clinical trial for metabolic effects and taste acceptability in eight people with lifestyle-controlled type 2 diabetes. Subjects were randomized to be offered 56 grimes of bread baked in the same bakery with 5 percent fenugreek or ordinary wheat bread. Over a duration of 4 hours after use, postprandial blood glucose and insulin were assessed regularly. After intake of fenugreek-containing food, the region of blood insulin under the curve was greatly decreased, and this food was indistinguishable from the entire regulation in terms of taste and presentation. These results indicate that fenugreek is an efficient form of reducing plasma insulin in people with type 2 diabetes based on diet.

**Rizvi et. al, (2013)**Reported about 800 diabetes treatment plants. These involve bitter melon, cinnamon, fenugreek and ginseng which are evidently antihyperglycemic. They have all shown a certain amount of antidiabetic behavior through various action mechanisms.

**Selvin et. al, (2011)**The disease incidence is higher in Hispanic, Indian, African American and Asian people compared with non-Hispanic white T2D, which is described as hyperglycemia due to reduced mass and beta-cell activity, peripheral insulin resistance (IR), i.e. diminished insulin sensitivity, and poor insulin secretion. Many scientists (Dimitrova et. al.,(2007) suggest that the main condition in the production of T2D is insulin resistance. IR is thought to be triggered by a smaller number of modifications or structural changes in insulin receptors that limit insulin's ability to promote cell absorption and glucose metabolism. According to the World Health Organization40% 90 % of the people of developed countries use herbs and extracts as natural medicines up to literature review.

## RESEARCH METHODOLOGY

The present study was carried out to assess the effect of periodic intensive counselling on diet alone, and counselling on diet and exercise. The above parameters were also assessed for another group of subjects who served as the control, and who were given only one-time counselling on diet and exercise.

### Sampling

One of the following three groups is allocated to fifty subjects

Group 1: People who were able to engage in just one food and fitness therapy session.

Group II: subjects able to undergo nutritional therapy only with daily follow-up.

GroupIII: subjects who were able to undergo food and exercise therapy with daily follow-up.

### Data collection

A systematic and objective analysis of the methods utilized in the testing setting is a methodology for testing. This includes the process used to obtain decision-making knowledge and evidence. This article contained the secondary source of information. Data from journals, books, blogs and other sources are collected.

## RESULT AND DATA ANALYSIS

Diet has long been considered a crucial factor of diabetes care. Diabetes prevalence is decreased during starvation and obesity raises the likelihood of diabetes. The etiological relationship with diabetes is the product of all nutritional influences, including excessive fat or carbohydrate, which lead to the increased intake of calories and increase body weight (Gupta and Mishra 2005).

Indians primarily use a herbal diet. People in India only use non-vegetarian food once or twice a week. It is normally only on Wednesdays and Sundays. Non-vegetarian meals are typically not served on Tuesdays, Fridays and Saturdays. During certain nice days, people usually should not eat non-vegetarian food.

Whole bengal gram, green gram and peas (a steamed snack item) are used for sundal development. Red gramme dhal is used to manufacture sambbar (dhal stew) and rasam, also used as side dishes. Green gram dhal and entire green gram are used to make side dishes for chappathi (unleavened bread) with or without vegetables.

Coriander and mint leaves are often used to cook or decorate side dishes. The majority of subjects use onions and tomatoes regularly, so they are used in different preparations, including fresh salads, pachadis, gravel and curries. Even in other side dishes, such as rasam and sambhar, tomato is used. Garlic was most sometimes used equally for gravy and curry. Plantain stem use has been highlighted as a vegetable abundant in fibre, and can be used in salads and as a vegetable dish. This may have prompted the enhanced use of plantain stem at the end of the analysis. Sundal (globnuts or boiled whole pulses) at teatime substituted a fried snack or bakery object, as stressed in the diet counselling sessions.

Chicken was baked without the skin and heavily prepared. As stressed in nutritional therapy sessions, Mutton, which is high in saturated fats has been limited in the diet of subjects who have type 2 diabetes mellitus. Egg yolk produces the most atherogenic myristic acid of the saturated fatty acids and is calculated to have the influence of other saturated fatty acids four times. The cholesterol content of egg yolk is high, so it is advisable to take egg white.

**Energy and food Intake of the Subjects in Different Groups**

The mean regular energy and macronutrient intakes of the subjects in Group I are shown in table 1 per month, for a duration of six months.

**Table 1: Mean daily energy and macronutrient food intakes of the subjects in Group I**

| Month | Intake (Mean ± SD) | | | |
|---|---|---|---|---|
| | Energy (kcal) | Carbohydrate (g) | Protein (g) | Fat (g) |
| 1 | 1627 ± 463 | 262.4 ± 82.1 | 57.7 ± 22.0 | 36.4 ± 17.7 |
| 2 | 1695 ± 432 | 282.2 ± 72.4 | 62.5 ± 19.6 | 35.5 ± 17.1 |
| 3 | 1654 ± 416 | 275.0 ± 74.0 | 58.8 ± 20.0 | 35.8 ± 14.2 |
| 4 | 1749 ± 440 | 283.4 ± 69.6 | 60.2 ±18.0 | 42.1 ± 19.9 |
| 5 | 1733 ± 497 | 279.2 ± 68.6 | 65.1 ± 26.9 | 40.0 ± 27.3 |
| 6 | 1700 ± 353 | 279.7 ± 53.7 | 58.5 ± 16.1 | 39.5 ± 17.2 |

As seen in Table 1, energy consumption for participants in Group I at the beginning of the research was approximately 1627±463 calories, which by the end of the study had been risen to 1700±353 calories. There was a tendency towards increased calorie consumption from the start to the end of the report. The energy needs of these subjects were measured at 1600 to 1800 calories a day depending on their body weight. The energy consumption of the participants was well below the prescribed allowance. There was an improvement in the consumption of carbohydrates and proteins at the beginning and the end of the research. By the end of the study, the intake of fat was minimally increased.

The estimated daily energy and macronutrient intakes in subjects m Group II are shown in Table 2 per month for six months.

**Table 2: Mean daily energy and macro nutrient food intakes of the subjects in Group II**

| Month | Intake (Mean ± SD) | | | |
|---|---|---|---|---|
| | Energy (kcal) | Carbohydrate (g) | Protein (g) | Fat (g) |
| 1 | 1450 ± 318 | 236.7 ± 55.2 | 55.5 ± 20.6 | 31.8 ± 12.4 |
| 2 | 1348 ± 233 | 217.0 ± 32.9 | 48.3 ± 12.9 | 32.0 ± 14.0 |
| 3 | 1429 ± 298 | 225.9 ± 51.8 | 49.1 ± 12.0 | 36.8 ± 15.6 |
| 4 | 1407 ± 224 | 223.8 ± 41.0 | 47.1 ± 10.4 | 36.1 ± 12.0 |
| 5 | 1401 ± 262 | 218.9 ± 43.0 | 49.5 ± 10.6 | 36.6 ± 17.4 |
| 6 | 1430 ± 297 | 219.5 ± 47.0 | 49.8 ± 14.1 | 39.3 ± 15.3 |

As shown in Table 2, consumption of energy from topics in Group II at the start of the analysis was 1450 ± 318 calories, which by the end of the study had decreased to 1430 ± 297 calories. There has been a tendency towards a reduced calorie consumption from the outset of the end of the report. The energy needs for these subjects were measured at 1600 to 1800 calories depending on their body weight. The energy usage of the participants was well below the prescribed level. There was a decline in carbohydrate and protein consumption from the beginning to the end of the analysis. By the conclusion of the study, the consumption of fat has risen.

Table 3 indicates the mean regular energy and macronutrient intakes of the subjects in Group III over a duration of six months per month.

**Table 3: Mean daily energy and macronutrient food intakes of the subjects in Group III**

| Month | Intake (Mean ± SD) | | | |
|---|---|---|---|---|
| | Energy (kcal) | Carbohydrate (g) | Protein (g) | Fat (g) |
| 1 | 1603± 400 | 264.1 ± 74.2 | 55.6 ± 14.7 | 36.9 ± 14.5 |
| 2 | 1422 ± 254 | 229.8 ± 45.7 | 49.4 ± 11.5 | 34.5 ± 12.1 |
| 3 | 1507 ± 307 | 239.6 ± 58.2 | 53.3 ± 18.4 | 37.9 ± 12.3 |
| 4 | 1463 ± 320 | 230.1 ± 53.7 | 51.4 ± 13.5 | 38.1 ± 17.0 |
| 5 | 1486 ±293 | 240.9 ± 54.3 | 52.6 ± 14.7 | 35.5 ± 12.4 |
| 6 | 1495 ± 323 | 236.4 ± 54.7 | 51.5 ± 14.3 | 38.8 ± 13.0 |

As seen in Table 3, the energy consumption of participants in the community at the start of the study was about 1600 ± 400 calories, which by the end of the analysis had decreased to 1495 ± 323. There has been a tendency towards a reduced calorie consumption from the outset of the end of the report. The approximate energy needs for these subjects is 1700-1800 calories a day depending on their body weight. The energy usage of the participants was well below the prescribed level. There has been a decline in carbohydrate and protein intakes from the start to the end of the report. The consumption of fat did not improve much by the end of the analysis.

## CONCLUSION

Several therapies have been developed that can significantly mitigate and eliminate diabetes-related complications. Treatments including glycemic and blood pressure management to avoid microvascular risks, prompt eye follow-up tests and laser therapy to eliminate loss of vision. Prevention of gangrene and associated amputations by foot treatment. Lipid regulation and regulation of the blood pressure to minimize coronary disease and nephropathy. Dietary and activity prescriptions play a key part in illness control. There is no shortage of successful diabetes mellitus medication or care. The real difficulty is to incorporate safely and efficiently these therapies for people with type 2 diabetes mellitus. There are many obstacles to adoption, especially in the area of society, health policy and patient care.

In this context the present research was planned to evaluate the effect on health and diet and exercise of anthropometric tests, plasma glucose tests, HbA1c, serum lipid and blood pressure levels for participants with type 2 diabetes mellitus, the effects of regularly intense therapy over a six-month span.

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