



## What I was trained in medical college v/s what I learnt from diabetes.

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Date of Submission: 27-07-2020

Date of Acceptance: 11-08-2020

### ABSTRACT

this article is about the knowledge gained after extensive clinical practice of 34 yrs., and how knowledge which was taught in medical college is blindly followed by medical student and how questioning the science gives different and advanced knowledge. So there are about 17 points which were followed by medical student and practitioner according to medical school teachings and how in practice the perspective is absolutely reversed. Article is completely based on study and results of clinical practice of my personal opinion.

### I. INTRODUCTION

After passing my M.D. from India's prestigious medical college I have been working as a Physician for over last 34 years. During these years I have learnt many things which are contradictory to my knowledge which I believed to be true. Since my focus is on lifestyle disorders - type 2 diabetes, obesity, hypertension etc. the following discussion is related to these diseases only.

Let us discuss one by one ---

1 - Trained - Diabetes type 2 is a chronic and progressive disease and one has to live with it for life. Learnt - Type 2 diabetes can be reversed with

- Low calorie diet.
- Bariatric surgery.
- Low carb diet - (I recommend).

With above modalities Type 2 DM gets reversed in most cases. Diabetes is a reversible disease and can be reversed easily.

2 -Trained - Diabetes type 2 is mainly a genetic disease of excess glucose and should be treated with drugs / insulin to lower the glucose.

Learnt - Type 2 Diabetes is life style disorder of insulin excess / resistance and should be treated with life style modifications. Type 2 Diabetes can be labelled as a hyperinsulinism.

3 -Trained - In a patient with type 2 DM lowering the blood glucose with drugs/ insulin will help the patients to be healthy.

Learnt - Drugs will only lower the blood glucose but will not help the patients to improve the health. The basic cause remains untreated. Blood glucose and serum insulin. Should be reduced simultaneously with life style modifications. There are two abnormalities hyperinsulinism and hyperglycemia - controlling hyperglycemia at the cost of hyperinsulinism is not going to help patient's clinical outcome. Patient will continue to suffer with better glucose control.

4 -Trained - All the symptoms and abnormalities in a T2 DM are due to raised blood glucose.

Learnt - There are definitely symptoms and abnormalities due to higher blood glucose. But there are many pathological processes - microangiopathy, nephropathy, obesity, etc due to hyperinsulinism .So along with blood glucose it is equally important to keep the serum insulin low. With lower insulin the overall health improves.

5 -Trained - Diabetes needs to be treated with medicines and only after the blood glucose is raised.

Learnt - Prevention is a superior modality of treatment and every person should adopt a healthy lifestyle to stop type 2 diabetes before it starts. Raised insulin levels should be lowered early in the course. The blood glucose is elevated late in the course of the disease .Even when blood glucose is elevated, most patients can be easily treated with only lifestyle modifications.

6 -Trained - Carbohydrates in the diet are healthy and essential nutrients. You must take about 60 % of daily calorie intake in the form of carbohydrates.

Learnt - Carbohydrates are non-essential nutrients. Moreover processed carbs in diet are the single most important contributors for most of the life style disorders.

There are certain cells (eg- RBC etc.) in the body who can use glucose only. The required quantity of glucose can be synthesized in the body itself with a chemical process (gluconeogenesis) from non-



glucose material. Any person can live absolutely healthy life without any carbohydrates in the diet.

7 -Trained - Dietary fats / cholesterol are bad for health as they increase the risk of atherosclerosis / coronary ischaemic heart disease / strokes - (Diet heart hypothesis). So foods which contain these things - animal source food - should be avoided for better health outcome.

Learnt - Natural fats / animal source foods do not increase the risk of IHD or brain stroke. Processed food, refined carbs and refined oils are the actual culprits. What is important is to maintain insulin levels low.

8 -Trained - Obesity is due to consuming more calories than you use. So, for weight loss you should count calories and reduce calorie intake. You should also exercise more to increase the calorie deficit.

Learnt - Obesity is simply not an equation of calories in against calories out. There are no calorie receptors in the body. Body responds and is regulated by hormones. Calories can only be stored in the body under the influence of insulin. So, Obesity is a hormonal abnormality due to improper lifestyle. Any food that increases insulin will increase body fat - obesity. Calorie intake matters little if any. For weight loss hormones (insulin, cortisol, leptin ghrelin etc.) need to be corrected rather than calorie count.

9 -Trained - All calories are equal, no matter from whatever sources. Calorie is a calorie. They all have same effect.

Learnt - All calories are not equal. Calories from different sources like vegetables, fruits, grains, milk, ghee, egg, bakery products, sugar, etc. stimulate different hormonal response and are metabolized accordingly with different effect in body. Fats stimulate insulin secretion to a minimal level. So fats are not fattening even with high calorie content. Carbohydrates in the food stimulate insulin secretion to a high level. Processed or refined carbs stimulate the insulin secretion the most. So, they are highly fattening even though with a lesser calories as compared to fats in the diet.

10 -Trained - Blood sugar is the only indicator to diagnose diabetes. If the blood glucose is normal the patient is healthy.

Learnt - The process of insulin resistance / hyperinsulinism starts much before (10 -15 yrs.) the glucose levels start rising. So serum insulin measurements will be abnormal much earlier in the course of diabetes. Blood glucose test will show abnormal reports only after about 10 years or so. Insulin levels are better indicator of the disease process when blood glucose is in normal range. By

focusing glucose we are delaying the diagnosis of type 2 diabetes by more than 10 years.

11 -Trained - Hypertension is commonly (95%) of idiopathic (unknown cause - essential / primary) variety. It is a lifetime disease. Once you start having medicines you need to continue with it for life.

Learnt - Raised blood pressure is an important element in metabolic syndrome. All the components of metabolic syndrome are related to improper life style and are potentially reversible. The so called essential hypertension is a reversible disease and can be reversed easily with lifestyle modifications in most cases. Drugs will be required in only small group of patients.

12 -Trained - Hypertension is related to sodium metabolism and one should reduce salt ( NaCl ) intake in the diet .

Learnt - Hypertension is a component of metabolic syndrome (Raised - Weight, BP, Glucose, Triglycerides and lowered HDL). Lowering the insulin corrects all the components of metabolic syndrome. Insulin can easily be lowered with restricting the carbohydrates (especially refined) in the diet. Lowering the salt intake drastically (less than 3 gm /day) will worsen the health. So hypertension and diabetes type 2 are fully reversible in most of the cases.

13 -Trained - Type 2 DM and Hypertension are the disease of the old age and mainly seen in higher socioeconomic status.

Learnt - Type 2 DM and Hypertension are common in both higher (educated, rich, sedentary work) as well as lower (poor and uneducated, physical laborers) socioeconomic groups. So also, both the diseases are seen at younger (twenties) age groups along with older people. This is due to the fact that, processed foods are readily and widely available at a lower cost. The similar trend is observed all across the world.

14 -Trained - Medical graduates are trained to be disease caretaker with the help of the medicines. Diseases like infections, degenerative, cancers, surgery etc. were the areas of importance. Nutrition was sidelined.

Learnt - It is more important to be a healthcare consultant along with taking care of the disease situation. Health is more important. Most of the diseases nowadays are essentially lifestyle disorders. Moreover most of the diseases can be avoided, severity lowered drastically and outcome would be better in a healthy person. Like vivid -19 may affect many people, but healthy people will have minor disease and lower death rate as compared to an obese or diabetic individuals.



15      -Trained - The advice for the patient care should be scientific which evidence based science is. The research publications in journals are genuine and you can believe the results of these randomized or other trials.

Learnt - Many research activities are funded by the pharma or food corporates. The results of such trials are more likely to be favorable to the sponsors of such research. The results are likely to be manipulated in favor of the drug or food company.

16      -Trained - Newer drugs are better than the old ones. They have lesser side effects. They are more potent and effective than the older drugs. The drugs are introduced after adequate scientific research trials about efficacy and safety before permission for patient care.

Learnt - Many newer drugs are costly as compared to older drugs. Many offer little (if any) benefit. Many a times the benefit claimed are doubtful. Many times the statistic is twisted in favor of the company e.g. absolute v/s relative benefit with statins.

17      -Trained - The science , research , trials , funding , publications , journals , awards , teaching , training , conferences , seminars , recommendations , patient care guidelines , tests and drugs etc. are actually scientific . All such activities are serving the mankind to live better.

Learnt - In many instances the conflict of interest (corruption) cannot be ruled out. Ethics, patient interest may be compromised. Scientific evidence may be overlooked or misinterpreted. Money may be a big player at every level. The physician must be cautious. He must know when to prescribe and when not to prescribe. He needs to be on the side of the patient.

Undoubtedly, no one can deny the role of a medical education in the life of a doctor. The college, books, friends, teachers, teaching, knowledge, degree, experience everything matters a lot. But, Science evolves by questioning it not by following it.