

## Editorial

**Overweight is a Health Problem to be Tackled with Strict Dietary Restriction and Exercise****Arambam Giridhari Singh**

Department of Biochemistry, Nobel Medical College Teaching Hospital, Biratnagar, Nepal

**DOI: <http://dx.doi.org/10.3126/jonmc.v8i2.26712>**

One year of my experience as a regular morning walker, enabled me to declare that, morning walk is a regular practice for almost all categories people in Nepal. Majority of the walkers, the middle age group in particular, seems to be from well to do families, the sign of prosperity for many of them being shown by their bulging tummies. It is also a fact that they are adopting this morning walk as their regular exercise for reducing the extra fat they are carrying. The title of this editorial is a message only for those who are carrying extra weight. Here, the author's humble submission is that, only by walking, we will never be able to remove the extra fats until and unless a Calorie deficit is created in the diet we had been consuming. The main cause of overweight or obesity we are seeing now must be because of an imbalance between Calorie consumed and Calorie expended. If we consume energy yielding macromolecules namely, protein, carbohydrates and fats in much higher quantity than the actual requirement of the body, the excess calorie derived from these macromolecules will automatically be stored for the body's future use. The best biomolecule selected by the body as its storage form of energy is the fat molecule (triglyceride) to be packed in specialized fat cells (in adipose tissues) in and around the abdomen, buttocks etc.

How we get fats synthesized after consuming excess energy rich macromolecules could best be answered by hormone hypothesis. According to this hypothesis, Insulin is the main culprit. As we all know, it is secreted by the pancreas in response to the glucose level. If the glucose level rises higher due to the consumption of carbohydrate rich diets and other energy rich macromolecules (in the absence of carbohydrates, liver synthesizes glucose from proteins), insulin secretion also increases parallel to the concentration of the glucose in the blood. Insulin helps in the uptake of glucose by the muscles and fat cells for utilization as fuel and also it enhances synthesis and storage of fats in the fat cells including the unloading and storage of dietary fats. So long the blood glucose level remained on the higher side, insulin level may also be on the higher side and it will keep fats unused inside the fat cells. A second idea regarding increased insulin secretion suggested by the researchers is that, sugars such as sucrose, because of its fructose can often develop insulin resistance. If the cells are insulin resistant, more insulin will be secreted to overcome the resistance for controlling the raised glucose level, creating condition still favoring storage of fats. The third finding is the effect of the quality of the carbohydrates we are consuming on the insulin status. The more digestible the carbohydrate, the greater and quicker will be the rise in blood glucose. Thus, a diet rich in refined grains and starches will prompt greater insulin secretion because of high glucose level released after their quick digestion, the result being increased fat synthesis and its storage again [1]. As consequences, we have come to know that, the excess energy deposited as extra fats in the body, can kill more people than malnutrition



Licensed under CC BY 4.0 International License which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

**\*Corresponding author**

Dr. Arambam Giridhari Singh  
Professor  
Email: [dragiridharisingh@gmail.com](mailto:dragiridharisingh@gmail.com)  
ORCID: <http://orcid.org/0000-0001-7261-1095>

**Citation**

Singh AG, Overweight is a Health Problem to be Tackled with Strict Dietary Restriction and Exercise, JoNMC. 8:2 (2019) 1-3.



does. As such, overweight and obesity is now a major health problem both in the developed and developing countries because of their being the risk factors for several of the leading causes of death including type 2 diabetes, high blood pressure, heart disease and stroke, certain types of cancer, sleep apnea, osteoarthritis, fatty liver disease, kidney disease, gall bladder disease, Low quality life etc [2]. What is not widely known is that, the risk of health problem starts when someone is only very slightly overweight and that, the likelihood of problems increases as someone becomes more and more overweight. Many of these conditions cause long term suffering of the individual and family. In addition, the cost for the health care can extremely be high. In spite of all these health problems, cited above, one good news is that overweight and obesity are largely preventable and the key to success is to achieve an energy balance between calorie consumed and calorie expended [3].

Considering the fact that, overweight is a preventable health threat, one should be optimistic in handling the action for removal of the excess weight gradually. We have come to know that, losing as little as 5% of the body weight may lower the risk of several diseases including heart disease and type II Diabetes. A slow and steady weight loss of 0.5 to 2.0 pounds per week is also suggested by experts. Federal guidelines for dietary recommendation and physical activity to be followed are (i) Dietary: Begin with half plate vegetables and fruits, the remaining half to be filled with unrefined whole grains, lean sources of protein like lean meats, seafoods, beans peas, soy nuts and seeds (ii) Physical activity: Begin with at least 150 minutes a week of moderate aerobic activity like biking or brisk walking; for losing weight or for maintaining weight loss, one may need to be active for more than 300 minutes per week [4]. Center for Disease Control and prevention (CDC), USA, suggested some tips that can help people lose weight successfully which are listed as, (i) Maintenance of a daily food diary so as to know what food we eat, when to eat, amount to be consumed etc (ii) changes in the eating habits like eating more slowly, putting the fork down between the bites and drinking more water, (iii) incorporation of healthy habits like, taking a walk at the lunch time. Salad with dinner and walk for 15 min in the evening etc (iv) Once, weight is lost, a regular physical activity (60-90 min) of moderate intensity per day on most days of the week [5].

Health center, University of California, an Francisco, listed food choices to be avoided or chosen for planning of low Calorie intake (i) To be avoided: non nutritious foods like sugar, honey, syrups and candy, pastries, donuts, pies, cakes, cookies, soft drinks, Sweetened juices, & alcoholic beverages, fatty meats like bacon, sausage, franks, ribs, junction meats, snacks like nuts, chips, chocolate, fried foods, butter, margarine, oil, mayonnaise, high fat gravies, cream sauces, cream base soup etc. and (ii) To be chosen: poultry, fish, lean meats and low fat or nonfat dairy products, vinaigrette, herbs, lemon, fat free salad[6]. According to the latest report [7], the first fat to lose when losing of body weight starts, is the visceral fats accumulated as a part of the surrounding layers of internal organs deep inside the abdomen which are really responsible for the causation of most of the deathly diseases listed above. So, no visible sign of reduction of size of the waist etc. will be seen at the beginning but, relieving of health problems might have been started. For losing the fats responsible for the bulging of the mid section of our body accumulated just under the skin (subcutaneous fats, which are really less harmful), we may still need time and special exercises.

Lastly, the author's message to all concerned, is the immediate start of dietary restrictions by cutting their carbohydrate and fat quota to just half so that, the remaining half may be filled up by fruits and vegetables consisting of beans, peas, soybeans etc. Protein intake may be increased because; we have to get so many other proteins synthesized after digestion of the dietary proteins for running our own intracellular activities. Proteins can reduce appetite and they are to be utilized for synthesis of glucose when required. Consumption of red meat should be minimized because, they are rich in saturated fats, Calorie, bad cholesterol and very low omega 3 fatty acid against high content of omega 6. Alcohol consumption may be reduced just to cut the consumption of many energy rich fried foods while enjoying with it. Otherwise also, alcohol itself is an energy rich food which can generate 7 Calories per gm. Use of table sugar (sucrose) may completely be avoided, because of its fructose being



found to be responsible for insulin resistance. Consumption of Refined grains may likely be discouraged; instead, unrefined whole grain products may become a preferable option. If health permits, early morning brisk walking for one hour may be continued just to achieve the targeted 500 Calories loss.

## References

- [1] Gary Taubes Sept 2013 Healthwhat makes you fat: too many Calories or, the wrong carbohydrates?
- [2] Health effects of overweight and obesity; Healthy weight Center for Disease Control and Prevention. [cdc.gov/healthyweight/effects/index.html](http://cdc.gov/healthyweight/effects/index.html).
- [3] What are the health consequences of being overweight; World Health Organization, [who.int/features/ga/49/en](http://who.int/features/ga/49/en)
- [4] Health Risks of being overweight, National Institute of diabetes and digestive and kidney diseases (NIH).
- [5] Rachael Rettner, August 27, 2018. Obesity: causes, complications and treatments, Health.
- [6] Guidelines for losing weight; UCSF Health, University of California; San Francisco [ucsfhealth.org/education/guideline-for-losing-weight](http://ucsfhealth.org/education/guideline-for-losing-weight)
- [7] Christine Mugnoto; Nov 2019. Why most dangerous type of fat is also the easiest to lose. [Livestrong.com](http://Livestrong.com)

