

Industry cooperation - **Gluco Health** animal studies poster journal announcement

Scientific evidence can talk! Gluco Health helps you to get rid of the burden of sweets.

Nutraceutical science is the study of nutrient benefit for the human body. New Health led by Dr. Simon Hsia, breaks through the thistles and thorns along the way. He not only hosts many seminars and medicine colloquium around the world to advocate Nutraceutical benefits, but also cooperates with many academic and medical groups to continue multi-nutrient research. Hopefully, the scientific evidence will help persuade more people to recognize the importance of Nutraceutical in maintaining and improving their health in our toxic, stress-filled world.

Diabetes Mellitus (DM) is a common chronic disease in every country. In Taiwan, DM is the number four (4) cause of death based on "2006 Top Ten Causes of Death" announced by Department of Health, Executive Yuan, R.O.C. (TAIWAN). The death rate is 42.5 per hundred thousand, and that is 7.2% of the total death rate (Department of Health, Executive Yuan, R.O.C., 2007). We find that the death rate increases gradually because of this disease and we know that DM poises a big threat to not only Taiwanese but every industrialized nation. DM is a metabolic disease owing to endocrine imbalance and it can be divided in to two types, Type I and Type II. Over 90% of DM patients belong to Type II. The cause of DM is insufficient insulin or its dysfunction. Clinically, we can observe that death results not from the disease itself but from complications induced by free radicals from DM. Diabetic complications can be classified broadly as microvascular (including neuropathy, nephropathy and retinopathy) or macrovascular disease (including heart disease, stroke and peripheral vascular disease). Besides medical treatment, we find that water-soluble vitamins including niacin, biotin, inositol and mineral magnesium are co-factors of carbohydrate metabolism. Zinc and chromium can affect the synthesis of insulin, the sensitivity of insulin and the assistance of glucose delivery. Antioxidants, vitamin C and vitamin E can reduce oxidative stress induced by high glucose; improve inflammatory reaction and the abnormality of blood coagulation. In addition, some journals indicated that chromium yeast, bitter melon, evening primrose oil and bilberry extracts possess the ability to improve glucose levels, lowering blood lipid and antioxidants. Therefore, from these journals we know besides medical treatment, a single nutrient derived from natural foods can improve diabetes, and of course these 11 multi-nutrient combinations can act synergistically and provide even more benefits.



Scientific evidence is the key principle driving New Health product development. Based on this idea, Dr. Simon Hsia cooperated with associate professor, Kung-Chi Chan, in Department of Food and Nutrition at Providence University and performed the experiment of "The effect of metabolic abnormality and chronic inflammation to diabetic Wistar big mice induced by STZ by taking multi-nutrient, Gluco Health™, containing bitter melon extract." Results have been published in the poster journals of the 10th Supplements & Liver Protection Colloquium held by Taiwan Nutritional Supplements Association in 2008.

This research used the New Health Nutraceutical, Gluco Health, containing chromium yeast, bitter melon extract and other New Health multi-nutrients to interfere with Type II diabetes. The point was to determine if fasting glucose, metabolism abnormality, and chronic inflammation can be improved or not. Forty 8-week old Wistar Big mice were divided into 4 groups, Normal control (C), Type II diabetes control (Diabetic control, D) induced by STZ (streptozotocin), DM + mid-dosage Gluco Health (M) and DM + high-dosage Gluco Health (H). The experiment was 8-weeks long. During the experimental period, blood was drawn to analyze fasting glucose every two weeks and peritoneovenous blood samples were drawn to analyze triglyceride, HDL-C, Malondialdehyde (MDA), C-reactive protein (CRP), and von Willebrand Factor, vWF in the eighth week after sacrificing the animals. We found the following results:

1. Regarding fasting glucose, there was a significant difference between the DM + high-dosage Gluco Health (H) group and other groups until the fourth week. There was also a significant difference in the DM + mid-dosage Gluco Health (M) group until the sixth week. These results showed that taking Gluco Health could effectively improve fasting glucose 4 weeks later.
2. Hyperlipidemia is a common complication in diabetes patients. After 8 weeks, we found that plasma triglyceride in DM + high-dosage Gluco Health (H) group was significantly lower than the control group and the DM + mid-dosage Gluco Health (M) group. Therefore, Gluco Health can improve hyperlipidemia caused by diabetes.
3. Plasma HDL-C concentrations in DM + mid-dosage Gluco Health (M) and DM + high-dosage Gluco Health (H) were higher than that of the Diabetic control (D), but not different from the Normal control (C). These results showed that supplementation of Gluco Health can elevate HDL-C, which is helpful for cardiovascular disease in diabetes patients.
4. MDA, C-reactive protein, CRP and vWF stand for the level of oxidative stress, inflammatory reaction and damage condition of endothelium cells individually. There was no significant difference between the supplementation group and the Normal control group, but there was a significant difference with the Diabetic control, D. Therefore, results demonstrated that the supplementation of Gluco Health in diabetic mice could effectively improve fasting glucose, reduce inflammatory reaction and reduce the amount of damage to endothelium cells, as well as improve blood lipid values to relieve thrombosis complication in cardiovascular disease.

The terrible part of DM is the complication mentioned above. The cost for the medical treatment of these complications not only wastes large amounts of social resources, but also increases the financial burden on each individual and family. In addition, complications also lead to an elevation of the death rate and increased discomfort of each patient's daily life. Results from the above experiments show that 11 multi-nutrient, Gluco Health, containing chromium yeast, bitter melon extract and other Nutraceuticals produced by New Health can effectively improve diabetes. This research proves that Nutraceutical intervention is beneficial, successful, and warranted in the fight against diabetes.