

## POSITIVE ATTITUDE FACILITATES GLUCOSE CONTROL IN TYPE 2 DIABETES

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### Abstract

**Statement of the Problem:** Diabetes control remains a challenging problem regardless of many advances made. Stress adds extra burden. Positive attitude promotes health and reduces stress in a fundamental basis, and can result in permanent changes in as short as 3 weeks because of neuroplasticity. Its contribution to diabetes control remains unknown. In this study, we aim at encouraging patients practicing positive attitude in their daily life, and explore its impact on diabetes control in patients with type 2 diabetes.

**Methodology & Theoretical Orientation:** One hundred and twenty type 2 diabetic subjects were enrolled, assigned into two groups, one test and one control, with 60 subjects for each, well matched for age and diabetes control, informed consent form signed and ethical committee review obtained. Blood glucose (FBG, 2hr PPG), HbA1c, C peptide, Insulin, and other labs were tested before and after practicing positive attitude. Positive attitude practice includes confidence, gratitude, adaptable, generous, lovable, forgivable, courageous, compassionate, healthy, connected and meaningful, for 3 weeks. Other treatment remains the same as that prior to the study. Statistical analysis was performed with SAS, and compare was between groups, before and after practicing positive attitude. Sub-layer analysis is also performed.

**Findings:** Prior to practicing positive attitude, all the lab values are well matched between two groups, without significant difference for glucose level or HbA1c. With 3 weeks practice, the test group had significant decrease with blood glucose and HbA1c ( $p < 0.01$  before vs. after), while no significant change in the control group. The difference between the test group and control group after 3 weeks is also significant ( $p < 0.05$  test vs. control). The more positive attitude they practice, the better glucose control.

**Conclusion & Significance:** Practicing positive attitude can significantly improve glucose control in patients with type 2 diabetes. It should be strongly encouraged.

Diabetes mellitus (DM) could even be a chronic progressive disorder characterized by hyperglycemia mainly due to absolute (Type 1 DM) or relative (Type 2

DM) deficiency of insulin hormone. DM virtually affects every system of the body mainly thanks to metabolic disturbances caused by hyperglycemia, especially if diabetes control over a period of your time proves to be suboptimal. Until recently it had been believed to be a disease occurring mainly in developed countries, but recent findings reveal an increase in number of latest cases of type 2 DM with an earlier onset and associated complications in developing countries. Diabetes is related to complications like cardiovascular diseases, nephropathy, retinopathy and neuropathy, which may cause chronic morbidities and mortality. World Health Organization (WHO) estimates that quite 346 million people worldwide have DM. This number is probably going to quite double by 2030 with none intervention. Almost 80% of diabetes deaths occur in low and middle-income countries. According to WHO report, India today heads the planet with over 32 million diabetic patients and this number is projected to extend to 79.4 million by the year 2030. Recent surveys indicate that diabetes now affects a staggering 10-16% of urban population and 5-8% of rural population in India and Sri Lanka.

### Addressing needs of diabetic patients

One of the most important challenges for health care providers today is addressing the continued needs and demands of people with chronic illnesses like diabetes. The importance of normal follow-up of diabetic patients with the health care provider is of great significance in averting any future complications. Studies have reported that strict metabolic control can delay or prevent the progression of complications related to diabetes. The needs of diabetic patients aren't only limited to adequate glycemic control but also correspond with preventing complications; disability limitation and rehabilitation. Some of the Indian studies revealed very poor adherence to treatment regimens thanks to poor attitude towards the disease and poor health literacy among the overall public. The introduction of home blood sugar monitors and widespread use of glycosylated hemoglobin as an indicator of metabolic control has

## *Extended Abstract*

contributed to self-care in diabetes and thus has shifted more responsibility to the patient. In a study wiped out Scotland, it had been suggested that the role of the health care provider is crucial to patient's understanding of their blood sugar fluctuations with an appropriate self-care action.

### **Self-care in diabetes**

Self-care in diabetes has been defined as an evolutionary process of development of data or awareness by learning to survive with the complex nature of the diabetes during a social context. Because the overwhelming majority of day-to-day care in diabetes is handled by patients and/or families, there's a crucial need for reliable and valid measures for self-management of diabetes. There are seven essential self-care behaviors in people with diabetes which predict good outcomes. These are healthy eating, being physically active, monitoring of blood glucose, compliant with medications, good problem-solving skills, healthy coping skills and risk-reduction behaviors. These proposed measures are often useful for both clinicians and educators treating individual patients and for researchers evaluating new approaches to worry. Self-report is by far the most

practical and cost-effective approach to self-care assessment and yet is often seen as undependable. Diabetes self-care activities are behaviors undertaken by people with or in danger of diabetes so as to successfully manage the disease on their own. All these seven behaviors are found to be positively correlated with good glycemic control, reduction of complications and improvement in quality of life. In addition, it had been observed that self-care encompasses not only performing these activities but also the interrelationships between them.

### **Biography**

Shaoyun (Cheryl) Wang has her expertise in diabetes, obesity, positive attitude, endocrinology and metabolism. Her “happy booster” and “our family chicken soup to all the beautiful you” are enormous contribution to the world, as well as to the scientific communities. Practicing positive attitude should be encouraged in our daily clinical practice as well as our daily life.

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