



EXPLORING THE THERAPEUTIC EFFECTS OF YOGA AND ITS ABILITY TO IMPROVE THE WELL BEING OF TYPE- 2 DIABETIC MELLITUS

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ABSTRACT

In the year of 2015, 415 million of adults were suffering from the diabetes mellitus and studies are telling that this number is expected to increase to around 642 million or one in ten adults by 2040. One in a two adults with diabetes mellitus is undiagnosed because they don't know the terrible complications of diabetes. Many people living with type 2 diabetic mellitus for a prolonged period without being unaware of their health condition, diabetes lead many health complication like diabetic foot, frozen shoulder, cardiovascular disease etc, delayed diagnosis means peoples may get one on the other complications by the time of treatment, in many countries diabetic is a leading caused for retinopathy, kidney failure, amputation of lower limb. Early detection and time to time treatment individuals can prevent or reduce the impact of diabetic complications.

KEYWORDS: diabetes mellitus , health condition, diabetes lead.

INTRODUCTION

Good Health is the key to a happy life for every human being, everyone know that health is wealth. The modern pace of life hardly gives time to take care of health, but ancient Indian literatures says that the true accomplishment of life begins with good health, for a good health numerous things has to be done like intake of calories accordingly body activity demands, and regular exercise has to be done according (Divakar and Mulla, 1978; Shambekar and kate, 1980). World Health Organization stated that "Health is a state of complete physical, mental and social well-being" Neither is it 'merely the absence of disease or infirmity.

PHYSICAL HEALTH:

According to the experts, for human physical Health refers to 'good body health or fitness' which is due to regular exercise or physical activity good nutrition and adequate.

MENTAL HEALTH:

Mental health refers to emotional and cognitive well-being. A person who enjoys good mental and emotional balance does not have a mental disorder

About mental health World Health Organization says that it is a "state of well-being in which the individual realizes his or her own abilities, can cope with normal stresses of if, can work productivity and fearfully and is able to make a contribution to his or her community"

The essential dimensions of 'health' would be the achievement of optimal growth and development, reflecting the full expression of one's genetic potential, maintenance of the structural integrity and functional efficiency of body tissues necessary for an active and productive life, mental health, ability to with

stand the inevitable process of ageing with functional impairment and minimal disability and ability to fight against disease (Kristal et al., 2005).

Yoga:

Yoga is a 3,000 year old tradition and it's first described by Indian saint 'Patanjali' in the classic book 'yoga suthra' which is widely recognized as the authoritative book on yoga. The 'yoga' word comes from a Sanskrit word 'yuj' which means yoke or union to join, and to direct and concentrate one's attention today, many people's think that yoga means only physical poachers, Asana is just one of the eight tools used for get good physical health; in the text of yoga suthra only three of the 196 suthras mention asana and the remain 193 suthras discusses the other factors of yoga including controlled breathing meditation or dhayana, diet changes, lifestyle, healing use of sound and visualization, among many others. In yoga suthra pathanjali mentioned eight fold ways or path to get awareness and enlightenment about life and its called as a 'ashtanga' which literally means 'eight limbs or eight parts'

BENEFITS OF YOGA

Physiological Benefits

The physiological benefits are stable autonomic nervous system equilibrium; blood Pressure decreases (of special significance for hyporeactors); pulse rate decreases; GSR (galvanic skin response) increases; respiratory rate decreases; ECG- alpha waves increase (during various stages of meditation theta, beta and delta waves also increase); cardiovascular efficiency increases; EMG activity decreases; efficiency of respiratory increases; eye and hand coordination's increase; grip strength increases; reaction time and dexterity skills improves.

Psychological Benefits

From practicing of yoga the psychological benefits are subjective well-being increases and mood improves; hostility decreases; anxiety and depression decrease; concentration, attention, mood, learning efficiency, memory improves; actualization, social skills and well-being increases.

Biochemical Benefits

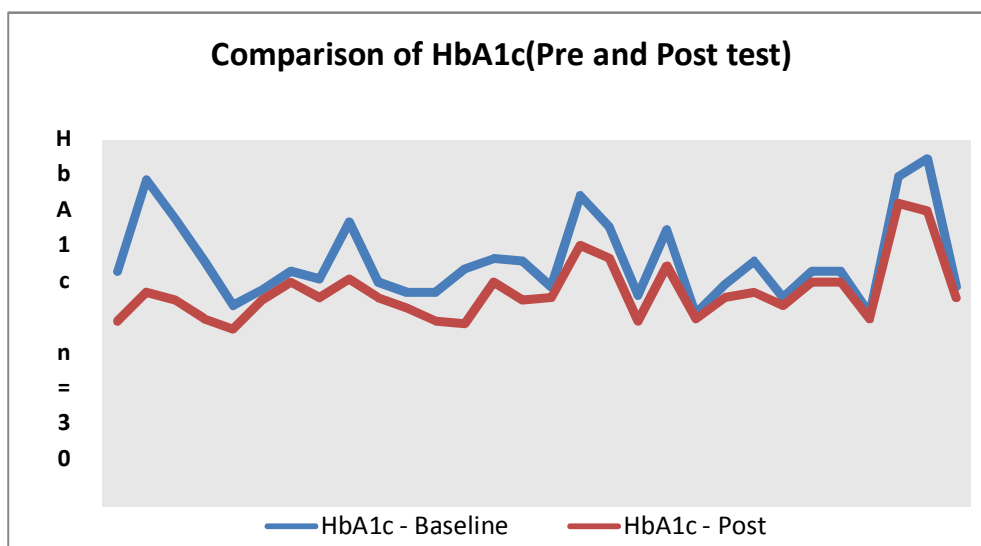
From practicing of yoga the biochemical benefits are glucose, sodium, total cholesterol, triglycerides, LDL cholesterol, VLDL cholesterol, catecholamine's are decrease; and HDL cholesterol, cholinesterase, ATPase, Hematocrit, Hemoglobin, Total white blood cell count, Lymphocyte count, thyroxin, Vitamin C, Total serum protein increases.

Blood Pressure

The blood pressure of both Genders is presented in table no 2. A total 30 subjects, 60% subjects were having normal blood pressure, 33.3% subjects were having grade 1 hypertension and female were having grade 2hypertension and grade 3 hypertension when compared to males.

| sl,no | Age | Gender | ID no | Hight | Weight | Pre-test date | Pre-HbA1c | Post test | Post HbA1c |
|-------|-----|--------|-------|-------|--------|---------------|-----------|-----------|------------|
| 1 | 57 | M | 4973 | 170 | 69 | 2/6/2015 | 12.5 | 3/9/2015 | 8.2 |
| 2 | 49 | M | 4974 | 176 | 104 | 2/6/2015 | 11 | 6/9/2015 | 7.9 |
| 3 | 36 | M | 4130 | 170 | 78 | 28/6/2015 | 9,0 | 28/9/2015 | 8,6 |
| 4 | 45 | M | 4982 | 168 | 64 | 6/6/2015 | 10,9 | 8/9/2015 | 8,7 |
| 5 | 59 | M | 4741 | 163 | 51 | 9/6/2015 | 8,2 | 12/9/2015 | 7,1 |
| 6 | 53 | M | 253 | 164 | 60 | 9/6/2015 | 9,1 | 12/9/2015 | 7,0 |

| | | | | | | | | | |
|----|----|---|------|-----|----|-----------|------|-----------|------|
| 7 | 41 | M | 2372 | 153 | 72 | 12/6/2015 | 8,6 | 14/2015 | 8,6 |
| 8 | 40 | M | 2974 | 163 | 63 | 16/6/2015 | 10,7 | 18/9/2015 | 9,5 |
| 9 | 46 | M | 4087 | 174 | 74 | 16/6/2015 | 8,1 | 18/9/2015 | 7,1 |
| 10 | 48 | M | 2135 | 156 | 68 | 19/6/2015 | 9,4 | 22/9/2015 | 8,2 |
| 11 | 51 | M | 2670 | 169 | 69 | 18/6/2015 | 8,0 | 22/9/2015 | 7,7 |
| 12 | 57 | M | 3104 | 165 | 80 | 25/6/2015 | 7,4 | 22/9/2015 | 7,2 |
| 13 | 58 | M | 1822 | 168 | 75 | 26/6/2015 | 12,6 | 28/9/2015 | 11,6 |
| 14 | 34 | F | 4134 | 165 | 71 | 1/6/2015 | 9,0 | 3/9/2015 | 7,1 |
| 15 | 52 | F | 717 | 163 | 49 | 3/6/2015 | 9,4 | 7/9/2015 | 7,2 |
| 16 | 55 | F | 1900 | 155 | 72 | 4/6/2015 | 8,3 | 8/9/2015 | 7,7 |
| 17 | 54 | F | 4980 | 153 | 72 | 88/6/2015 | 8,3 | 28/9/2015 | 7,9 |
| 18 | 47 | F | 1621 | 155 | 62 | 6/6/2015 | 8,7 | 7/9/2015 | 8 |
| 19 | 47 | F | 4984 | 156 | 53 | 8/6/2015 | 8,6 | 9/9/2015 | 8 |
| 20 | 35 | F | 4986 | 165 | 70 | 9/6/2015 | 8,2 | 9/9/2015 | 7,6 |
| 21 | 50 | F | 4353 | 147 | 63 | 13/6/2015 | 9,4 | 15/9/2015 | 7,9 |
| 22 | 49 | F | 5004 | 151 | 58 | 15/6/2015 | 11,9 | 16/9/2015 | 10 |
| 23 | 43 | F | 5008 | 152 | 91 | 18/6/2015 | 10,6 | 19/9/2015 | 9,2 |
| 24 | 48 | F | 5007 | 155 | 71 | 18/6/2015 | 7,4 | 20/9/2015 | 7,2 |
| 25 | 51 | F | 1838 | 158 | 82 | 18/6/2015 | 8,5 | 21/9/2015 | 8,0 |
| 26 | 57 | F | 5014 | 144 | 49 | 23/6/2015 | 9 | 25/9/2015 | 9,6 |
| 27 | 59 | F | 1243 | 152 | 68 | 24/6/2015 | 9 | 27/9/2015 | 8,6 |
| 28 | 40 | F | 1822 | 156 | 78 | 27/6/2015 | 13,3 | 28/9/2015 | 11,3 |
| 29 | 58 | F | 224 | 145 | 78 | 28/6/2015 | 8,4 | 29/9/2015 | 8 |
| 30 | 58 | F | 1826 | 147 | 78 | 14/6/2015 | 9 | 15/9/2015 | 8.5 |



The average adherence is calculated as = (actual hours of yoga attended by each patient/total hrs of yoga)*100. The average adherence of all 30cases is 90.5% and divided the cases into two groups <90% and >=90%

CONCLUSION

In conclusion, the present study shows that yoga therapy in addition to standard medical therapy reduces blood sugar level. Yoga therapy, as applied in western culture, is an innovative form of physical activity and stress management, this mind–body practice is a complementary and alternative medicine (CAM) modality that has become increasingly popular in recent years- Among adults with diabetes, yoga therapy has been associated with multiple benefits and few adverse effect Yet, studies that investigate yoga therapy and its outcomes rarely report data beyond 1 year post intervention, and few, if any, examine aspects of the social environment that may contribute to yoga practice as a lifestyle to prevent or minimize complications from diseases such as diabetes.

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