

**COMPARISON BETWEEN SPIRITUAL BEHAVIOUR AND SLEEPING BEHAVIOUR OF DIABETICS AND NON-DIABETICS**

Voice of Research

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The research was conducted with the purpose to study the spiritual behaviour and sleeping behaviour among diabetics and non-diabetics. It was hypothesized that non-diabetics spend more time on spiritual activity and have healthier sleeping behaviour than diabetics. The sample consisted of 200 diabetics and non-diabetics in the age range of 40-60 years. The data was collected with the help of self-constructed questionnaire. t test was applied to study the significance of difference between the spiritual behaviour and sleeping behaviour of diabetics and non-diabetics. Results showed that mean score for spiritual activity behaviour is 5.27 and 20.28 for diabetics and non diabetics respectively. Similarly, for sleeping behaviour mean score is 3.64 and 3.24 for diabetics and non diabetics respectively. t value for spiritual behaviour is 3.96 which is significant at .01 level and for physical activity behaviour, t value is 4.97 which is also significant at .01 level. Results revealed that non-diabetics spend more time on spiritual behaviour and have healthier sleeping behaviour than diabetics. Therefore, it can be concluded that healthy sleeping behaviour and high spiritual behaviour, which leads to better well being, diminishes chances of occurrence of diabetes.

key words : *Spiritual Behavior, Sleeping Behavior, Diabetics & Non-diabetics*

Diabetes is a clinical syndrome characterised by hyperglycaemia due to deficiency or diminished effectiveness of insulin, a disturbed chemical balance in the body. The diabetes is a chronic condition of impaired carbohydrate, protein and fat metabolism that results from insufficient secretion of insulin or from insulin resistance. Diabetes is associated with a thickening of the arteries due to the build up of wastes in the blood. Diabetes has also been associated with nervous system damage, including pain and loss of sensation. There are two major type of diabetes mellitus, (i) insulin-dependent diabetes mellitus (IDDM) or Type I diabetes and (ii) non-insulin dependent diabetes mellitus (NIDDM) or Type II diabetes.

Type 2 diabetes mellitus is characterized differently due to insulin resistance or reduced insulin sensitivity, combined with relatively reduced, and sometimes absolute, insulin secretion. The defective responsiveness of body tissues to insulin almost certainly involves the insulin receptor in cell membranes. In the early stage of type 2 diabetes, the predominant abnormality is reduced insulin sensitivity, characterized by elevated levels of insulin in the blood. At this stage hyperglycaemia can be reversed by a variety of measures and medications that improve insulin sensitivity or reduce glucose production by the liver. As the disease progresses, the impairment of insulin secretion worsens, and therapeutic replacement of insulin often becomes necessary. The high risk factors for diabetes are high familial agitation, obesity and poor life style. It has been found in many studies that life style plays an important role in the occurrence of depression.

Diabetes mellitus is a chronic condition. Over time, diabetes can lead to blindness, kidney failure, and nerve damage. These types of damage are the result of damage to small vessels, referred to as microvascular disease. Diabetes is also an important factor in accelerating the hardening and narrowing of the arteries (atherosclerosis), leading to strokes, coronary heart disease, and other large blood vessel diseases. This is referred to as macrovascular disease. People with diabetes can lead a full life while keeping their diabetes under control. Lifestyle modifications (changes in day-to-day habits) are an essential component of any diabetes management plan.

Lifestyle includes several aspects such as physical activity behaviour, sleeping behaviour, eating behaviour, spiritual behaviour etc. Each and every aspect of life is important in making individual physically as well as mentally healthy. Healthy eating habits, quality sleep, exercise and physical activities, participation in spiritual activities improves the blood sugar control and improves the metabolic functions of body, further it can slow the progression of long-term complications. Multiple small changes can lead to reduction in control of various diseases like cardiovascular disease, diabetes, metabolic syndrome etc.

Spiritual activities are an important part of life. It provides people with a sense of purpose and guidelines for living. Spiritual practices tend to improve coping skills and social support, foster feelings of optimism and hope, promote healthy behaviour, reduce feelings of depression and anxiety, and encourage a sense of relaxation. By alleviating

stressful feelings and promoting healing ones, spirituality can positively influence immune, cardiovascular (heart and blood vessels), hormonal, and nervous systems (Larson & Larson, 1991; D'Souza & Rodrigo, 2004; Parsian and Dunning, 2009).

Sleep is an essential part of our daily living. Sleep deprivation and too much of sleep both can have negative effect on health so it is of great importance that individual should have healthy sleeping behaviour. Sleep disturbances may intervene with the biological and physiological processes in human body leading to the development of metabolic dysfunction which can further lead to diseases like diabetes, cardiovascular diseases, depression etc. If individual adopts healthy life style then it may make him/her physically as well as mentally healthy.

Diabetes requires a lifelong management plan, and persons with diabetes have a central role in this plan. Lifestyle modifications are an opportunity for diabetics to take charge of their health. Therefore, it is important to learn as much as possible about diabetes and to take an active role in making decisions about healthcare and treatment.

Objectives

To study the spiritual activity behaviour among diabetics and non-diabetics.

To study the sleeping behaviour among diabetics and non-diabetics.

Hypotheses

Non-diabetics spend more time on spiritual activity than diabetics.

on-diabetics have healthier sleeping behaviour than diabetics.

Research Design : The sample consisted of 200 type 2 diabetics and non-diabetics in the age range of 40-60 years. Group I consisted of 100 type 2 diabetics and Group II consisted of 100 non-diabetics. Subjects were selected from Agra and Gwalior cities. Both the groups were matched in terms of age, sex and socio-economic status. Subjects having any other psychological and physical disorder were excluded from the sample. Diabetes was diagnosed on the basis of any MBBS doctor's (pathologist's) report obtained during last six months. If the blood sugar level after fasting was beyond the normal value of 70-100 mg/dl, it was diagnosed as diabetic.

To measure spiritual activity behaviour and sleeping behaviour Life Style Scale (Section B and C) developed by Das & Sheenu (2009) was used. It consisted of 15 items (Spiritual Activity Behaviour= 8 Items and Sleeping Behaviour= 7 Items). Test retest reliability of Spiritual Activity Behaviour section is .69 and internal consistency is .72. Test retest reliability of Sleeping Behaviour section is .98 and internal consistency is .55. t test was applied to study the significance of difference between the spiritual behaviour

and sleeping behaviour among diabetics and non-diabetics. Mean and s.d. were also calculated.

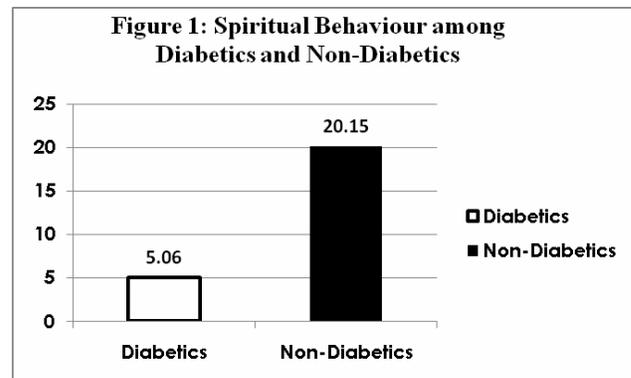
Results

Result Table-1 shows that the spiritual behaviour mean score for non-diabetics (20.15) and diabetics (5.06). To find the significance of difference between the spiritual behaviour between diabetics and non-diabetics t test was applied. Result Table No.-1 indicates that t value for spiritual behaviour is 3.65 that is significant at .01 level. It shows that there is significant difference between the spiritual behaviour among diabetics and non-diabetics. It confirms the findings that non-diabetics spend more time on spiritual activity than diabetics. Similar results were also shown with the help of figure also.

Result Table-1: 't' between the Spiritual Behaviour among Diabetics and Non-Diabetics

Groups	N	Spiritual Behaviour Scores		SE _D	't' Value
		Mean	S.D.		
Non-Diabetics	100	20.15	3.74	.22	3.65**
Diabetics	100	5.06	2.23		

**= Significant at .01 level

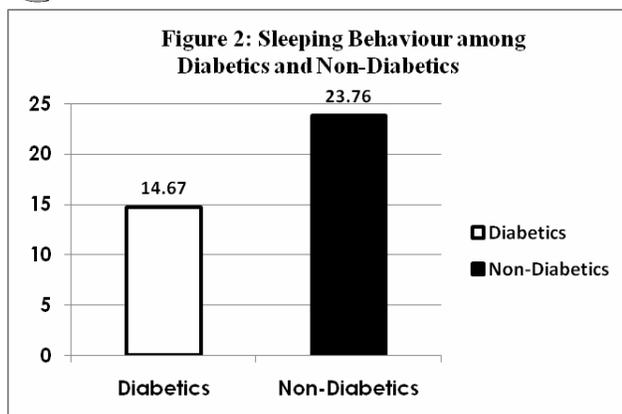


Result Table-2 shows the mean scores for sleeping behaviour among diabetics and non-diabetics. It can be observed from Result Table-2 that diabetics have lower mean score (14.67) for sleeping behavior than non-diabetics (mean score=23.76). It can be observed from Result Table-2 that t value in respect of sleeping behavior is 2.63 that exceeds the critical value at .01 level. Thus, it is significant. It shows that there is significant difference between the sleeping activity behavior among non-diabetics and diabetics. Figure-2 is also showing the similar results that non-diabetics have healthier sleeping behavior than that of diabetics.

Result Table-2: 't' between the Sleeping Behaviour among Diabetics and Non-Diabetics

Groups	N	Spiritual Behaviour Scores		SE _D	't' Value
		Mean	S.D.		
Non-Diabetics	100	23.76	3.42	.26	2.63**
Diabetics	100	14.67	3.65		

**= Significant at .01 level



Discussion : The results of the present study lead to the acceptance of the first hypothesis that non-diabetics spend more time on spiritual activity than diabetics. Spirituality gives a more positive outlook and a belief for the future. When people suffer ill health spiritualism helps them because their beliefs comfort them, help them to be more optimistic and they are more likely to achieve health goals, and believe that they will get better. There are many previous researches which confirm the findings of the present study. Strong scientific evidence suggests that individuals who regularly participate in spiritual worship services or related activities and who feel strongly that spirituality or the presence of a higher being or power are sources of strength and comfort to them are healthier and possess greater healing capabilities. Larson and Larson (1991) surveyed 12 years of publication of the *American Journal of Psychiatry* and *Archives of General Psychiatry*. They found that when measuring participation in religious ceremony, social support, prayer and relationship with God 92% of the studies showed benefits for mental health, 4% were neutral, and 4% showed harm. Hill and Pargament. (2003) have found in their research that people who spend more time on spiritual activity and activity related to religion are healthy. A study of prayer use by patients showed that 47% of study subjects prayed for their health, and 90% of these believed prayer improved their health. Those who prayed had significantly less smoking and alcohol use and more preventive care visits, influenza immunizations, vegetable intake, satisfaction with care, and social support, and were more likely to have a regular primary care provider. The study concluded that those who pray had more favourable health-related behaviours, preventive service use, and satisfaction with care (O'Connor, Pronk, Tan & Whitebird, 2005). Lager (2006) in his study examined the relationship among religious coping, acceptance of diabetes, social support, diabetes management, and quality of life among individuals with type 2 diabetes. Dyer (2007) also concluded in his research that spiritualism have positive effect on mental as well as positive health. Parsian and Dunning (2009) conducted their research on young adults and found that spiri-

tual activities help them to cope with stressful situations. Second hypothesis that the non-diabetics have healthier sleeping behaviour than diabetics has also been accepted. Laboratory and epidemiological studies suggest that sleep loss may play a role in the increased prevalence of diabetes and obesity. The relationship between sleep restriction, weight gain and diabetes risk may involve alterations in glucose metabolism, up regulation of appetite, and decreased energy expenditure. Several studies have also shown that recurrent partial sleep restriction or experimentally reduced sleep quality results in decreased insulin resistance, another risk factor for weight gain and obesity and leads to diabetes (Speigel et al., 2005). A study was conducted in University of Chicago Medical Centre by Leproult (2008) and it was found that suppression of slow-wave sleep (deep sleep) in healthy young adults significantly decreases their ability to regulate blood-sugar levels and increases the risk of type 2 diabetes. Study showed that reduced sleep quantity can impair glucose metabolism and appetite regulation, resulting in increased risk of obesity and diabetes. Longer periods of deep sleep are observed in physically active people and in those with an over-active thyroid gland, both associated with a faster metabolism. In contrast, people with an underactive thyroid gland, and thus a slower metabolism, enjoy fewer hours of deep sleep. Sleep deprivation is related to a number of undesirable changes in metabolic activity, for example, levels of cortisol (hormone involved in response to stress) in the blood increase, the immune response is affected, body's ability to handle glucose diminishes, and appetite control suffers (Knutson et al., 2007). Sleep disturbances, including insufficient sleep due to bedtime curtailment and poor sleep quality, may represent novel risk factors for obesity and type 2 diabetes (Leproult & Cauter, 2010). Short sleep was associated with changes in hormones that control hunger: leptin levels (reducing appetite) were low, while ghrelin levels (stimulating appetite) were high. Effects were seen when sleep duration fell below 8 hours. This suggests that sleep deprivation is a risk factor for obesity and obesity is considered the main contributor in the occurrence of diabetes. Spiritual activities enhance the body's natural healing ability. Spiritual activities like prayer (prayer for self and prayer for others) and altruistic behavior positively affect the mental health of the individual, which leads to the good physical health. People who practice a spiritual lifestyle often believe that there is life after death and there is always a supreme power who is observing everyone's acts and behaviour, so unknowingly it guides them to adopt good and healthy habits. Poor sleep habits can cause one's mood to be less positive. Short or very long sleep duration and poor sleep quality have adverse effects on metabolism and hormonal processes, contributing to increment in various diseases.

**Conclusions :**

Non-diabetics spend more time on spiritual activity than diabetics.

Non-diabetics have healthier sleeping behaviour than diabetics.

So it is concluded that diabetics should control their sleeping behaviour getting just sufficient amount of deep sleep and should get involved in spiritual activities to keep normal health.

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