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Diabetes and Physiotherapy

Md. Shafiullah Prodhania¹, MA Mannan², Mohammad Ali³

Abstract

Diabetes is a chronic illness that requires continuing medical care. Management of a patient with diabetes needs the services of a range of health care personnel including Endocrinologist, Physiotherapist, Dietitians, Podiatrist, Psychologist, Eye specialist and Nephrologists etc. Type-2 diabetes is now preventable. The prevention of diabetes by life style modification, including adequate exercise is more effective in preventive diabetes than pharmacological therapy. Most people with diabetes suffer from musculoskeletal complications which might include frozen shoulder, Back pain or osteoarthritis and many people with Type-1 diabetes develop a syndrome of limited joint mobility. Physiotherapy is a modern medical science which involves physical treatment techniques, such as exercise, manipulation and the use of electrotherapeutic and mechanical agents rather than drug therapy for the management of a condition. Physiotherapy has got important role not only in the management of disabilities but also in the management of diabetes, for control of sugar level in euglycemic state. Exercise has got tremendous role in regulating the diabetes. It lowers blood sugar level, decrease excessive body fat, decrease triglyceride, increased high density lipoprotein, decrease atherosclerosis, decrease cardiovascular and peripheral vascular disease and also increase sensitivity of insulin. Best exercise advised or given by a physiotherapist when a diabetic patient is disabled. So-that physiotherapy has a vital role in the management and prevention of diabetes.

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Introduction

Diabetes mellitus is a metabolic disorder of multiple etiologies characterized by chronic hyperglycemia with disturbances of CHO, fat & protein metabolism. The effect of chronic hyperglycemia including long term damage dysfunction and failure of various organs especially nerves, kidney, eyes, heart & blood vessels. Now a day, diabetes is an epidemic form. As the diabetes epidemic grows in size and complexity, there is an increasing realization that physicians alone are unable to provide the care required by people with diabetes. To help them live life to the fullest, people with condition need the services of a range of health care personnel, including diabetologist,

physiotherapist, dietitians, podiatrists, psychologist & eye specialist. However, the potential of some specialties, such as physiotherapy, has hardly been exposed.¹

Physiotherapy is now increasing its demand with awareness of its effects. By the physical treatment techniques, such as exercise, manipulation and use of electrotherapeutic and mechanical agent it plays a vital role in the management and prevention of a diabetic patient.

The diabetic prevention project demonstrate the life style modification, including intensive exercise, is more effective in preventing diabetes than pharmacological therapy and high lighted the role of trained professionals in motivating people to follow life style interventions².

Similar results have been reported by the Malmö Study, the Da Qing Study, the Finnish Diabetes prevention study and the Wenyang study. Physiotherapists are able to help people plan an individualized exercise programmed in order to maintain good glucose control and achieve optimal weight.

1. Department of Physiotherapy International Institute of Health Science, Dhaka, Bangladesh
2. Department of Endocrinology Dhaka Medical College & Hospital Bangladesh
3. Department of Physiotherapy, Uttara Adhunik Medical College, Uttara, Dhaka

Address of Correspondence: Dr. Md. Shallullah Prodhania, Asst. Professor, Department of Physiotherapy International Institute of Health Science, Dhaka, Bangladesh

Furthermore, physiotherapy leads to metabolic improvements even in the absence of weight loss, reducing the frequency of cardiovascular events and improving life expectancy. Effective exercise counseling ensures both cardio-respiratory and musculoskeletal fitness. This helps people with diabetes improve their quality of life, and contributes to overall control of blood glucose.

Physiotherapists can help people to maintain good blood glucose control and achieve optimal weight.

Beyond exercise counseling

Most people with diabetes suffer from musculoskeletal complaints, which might include frozen shoulder, back pain or osteoarthritis. Many people with poorly managed type- I diabetes develop a syndrome of limited joint mobility. Diabetic amyotrophy is a type of neuropathy that involves muscle wasting and weakening, especially in the thighs. Carpal tunnel syndrome and sciatica are other neurological conditions that are commonly suffered by people with diabetes³.

Pain Relief

Physiotherapy offers various effective non-pharmacological approaches for pain relief. Transcutaneous electrical nerve stimulation (TENS) involves electrical nerve stimulation through the skin, sending a painless current to specific nerves .3 Adhesive causalities is a common condition for diabetic patients. Proper passive and self-assisted exercise program can reduce the pain. Interferential therapy (IFT) uses the strong physiological effects of low frequency electrical stimulation of nerves.

Physiotherapy can play an important role in preventing and managing foot problems

Improving feet

Physiotherapy can play an important role in preventing and managing foot problems. Teaching the importance

of correct gait and posture, along with the basic principles of off-loading when required, can prevent or stabilize a number of foot complications.

In people with tropic ulcers, for example, which are typical in people with diabetes related foot problems, the effective use of crutches or foot splints can ensure off-loading and early healing⁴.

Conclusion

Physiotherapeutic interventions, usually delivered on a one-to-one basis, are patient-centered, in line with the contemporary approach that all providers of chronic medical care, including endocrinologist, try to provide to people in their care. The time spent with the physiotherapist during the course of treatment can strengthen patient provider bonding and enhance communication. As the number of people with diabetes continues to rise, and as the existing diabetes population ages, the need of efficient physiotherapy services will continue to grow. Including specialized physiotherapists as equal members of the diabetes care team will help us to utilize their services effectively in order to improve the health and well-being of all people with diabetes.

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