



Assessment Component 2: Report

DIABETES

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Introduction

Primary, secondary, and tertiary treatments are used to treat type 1 diabetes. Diabetes patients should be preserved with the utmost respect and as if they were the only ones in the room. Autoantigens in innovative media are currently being tested in humans to determine whether they can be used as a vaccination to prevent diabetes.

Anatomy and Physiology

Unlike a structural defect, a pathophysiologic alteration entails a change in function and is hence separate from one. Diabetic ketoacidosis occurs when insulin demand exceeds insulin production, leading in the accumulation of ketones in the bloodstream. Type 1 diabetes is caused by the immune system attacking and killing the beta cells of the pancreas, which are responsible for insulin production. In the absence of beta cells, the body is unable to produce any insulin at all. When it comes to type 2 diabetes, there is a relative shortage in insulin, but there is no absolute insufficiency in this condition (Morrison et al., 2021).

Therefore, the body's ability to produce enough insulin to meet the body's requirements is compromised. It has been determined that both beta cell insufficiency and insulin resistance are present. Gestational diabetes is the third kind of diabetes to be identified. Excessive quantities of the anti-insulin hormones produced during pregnancy are to blame. Insulin resistance and high blood sugar levels in the mother are the outcome of this issue in the baby. Insulin receptors might be malfunctioning (Rehackova et al., 2022). Understanding diabetes requires an in-depth understanding of the several organs and systems that are involved in the disease.

What happens when a person is diagnosed with this condition is not well understood. There are two pancreases, one on each side of the stomach and the other on each side of the upper abdomen. They are located on either side of the stomach and on either side of the higher abdomen. Because of its fundamental functions in digestion and the synthesis of hormones that control blood glucose levels, the pancreas is an important participant in the knowledge of diabetes.

Health and Lifestyle routine measures

Type 1 diabetes is treated with a combination of primary, secondary, and tertiary therapies. Each and every diabetic patient should be handled as if they were the principal patient. Human experiments are now being done to see if autoantigens in novel media may be utilized as a diabetes vaccine in order to prevent the disease. The HLA type of a child is used to determine whether or not a new born should get oral or nasal insulin medication (Tavaglione et al., 2021). A series of animal studies shown that GAD, whether as a protein or produced in potatoes,

may decrease diabetes in nonobese mice that were born diabetic without being overweight or obese.

Type 1 diabetes may one day be prevented by immunization research undertaken in both children and adults, according to recent findings. Treatment for patients with type 1 diabetes who have just recently been diagnosed is provided by means of a tertiary intervention. Previous research has demonstrated that immunosuppression with cyclosporin and other drugs is ineffective in halting the pathogenetic process in individuals who have just developed the disease (new-onset patients). Antigen-targeted immunotherapy is being considered as a potential therapeutic option in the future (Carr et al., 2021). Animal studies have shown that quick administration of antigen or insulin at the time of clinical beginning may help to shorten the course of the illness in situations of early diagnosis or in patients who have had an early commencement of the disease.

When describing the practice of exerting oneself in some manner, the phrases physical activity and exercise are sometimes used interchangeably. It is possible to classify muscle effort into two types: aerobic, which requires oxygen to keep going, and anaerobic, which does not need any oxygen at all. Individuals often use the term "exercise" as a catch-all phrase to refer to any kind of physical activity or exercise (Pal et al., 2021). Some of the most difficult aspects of exercise decision-making include determining how to design and administer an efficient and successful exercise program; how to tailor it to the motivation level of each individual patient; and how to choose, assess, and achieve specific, desired objectives, to name a few examples. As a consequence of these problems in decision-making, it is possible that the kind, intensity, duration, and frequency of exercise regimens used to attain these objectives would differ significantly. Exercising has its own set of challenges, just as any other self-care activity does, and they vary from patient to patient depending on their physical state as well as their mental perspective (Barone et al., 2021). The presence of diabetes complications such as neuropathy and retinopathy, which may impair a diabetic's ability to exercise, should be taken into consideration when determining the types of exercise that are appropriate for each patient, as well as the durations, intensities, and frequency of exercise.

When it comes to incorporating adequate exercise into a daily routine, patients may be hampered by a range of other factors, such as a lack of time, age, profession, social position, or other health conditions, among others. The capacity of a patient to commence and continue exercise, which is the most difficult aspect of exercise for patients, may be hampered by any or all of the difficulties listed above. The benefits of regular physical exercise are significant for diabetics of both types 1 and 2 (Grant and Chowdhury, 2022). In addition to improving their glycemic control and decreasing their risk of cardiovascular disease, regular exercise can help people with type 2 diabetes reduce stress and depression, and it can help them manage their blood lipids and blood pressure levels, according to the American Diabetes Association.

Type 2 diabetes has been related to a number of risk factors, including smoking, obesity, and high blood pressure, among others. According to one study, the risk of acquiring diabetes was 82 percent lower among individuals who participated in regular physical activity, ate healthfully, did not smoke, and drank alcohol in moderation than among the general population. When normal weights were included, the rates plummeted by an astounding 89 percent (Choudhary et al., 2021). Fiber content, polyunsaturated fat content, and a low mean glycemic index were all factors included in the definition of a healthy diet in this study, according to the findings.

Weight gain has been associated to 55% of type 2 diabetes cases in children and adolescents between the 1960s and 2000s, suggesting that reducing saturated fat and trans-fatty acid consumption while substituting them with unsaturated fats may help to slow the pace of increase.

Health and Social Care practice

People with diabetes may be able to live longer and more healthily if there are established rules and limits in place. The NHS plan (2000) is based on European law and offers advice for modernizing services, strengthening standards, and promoting patient-centered care. As a result of the National Standards Framework, which was released in 2001, the ultimate objective was to offer world-class care for diabetics and eliminate inequality in the United Kingdom by the year 2013 (Jude et al., 2021). An in-depth look at the delivery strategy for NSF for diabetes may be found in NSF for Diabetes: Delivery Strategy, a book that came out in 2003.

As a result, frameworks don't take into consideration the societal, economic, and environmental factors that contribute to poor health. A helpful platform for action is nevertheless provided by frameworks, notwithstanding the fact that it seems, with the exception of financing for retinal screening that the NSF for Diabetes (2001) concurs with this premise (Bain et al., 2021). There was no money provided out for the twelve requirements, therefore they could not be accomplished. As a result of this financing, this treatment is now available to all diabetics. Other NSF goals, such as keeping practice-based registries of persons with diabetes so that primary care practitioners may give proactive therapy, gained financial incentives only in 2004.

In the United Kingdom, 10 years later, this approach is still the gold standard for treating diabetes (NICE 2000). Since the publication of the book, diabetic individuals have seen a significant improvement. Depending on your point of view, certain standards may not be implemented until 2013. Since the NSF for Diabetes (2001), a variety of publications have been issued to provide healthcare practitioners with guidance (NICE 2004, NICE 2008, NICE 2009, RCN, NMC) (Morrison et al., 2021). In order to offer high-quality healthcare, each of

these frameworks is intended to function in conjunction with the others, rather than operating alone.

If blood glucose levels are not properly managed, any one of these factors, together with others, may result in diabetes and the difficulties that accompany it. When it comes to managing their health, people with diabetes have a lot of input in the process. When it comes to taking care of oneself, people hold a substantial portion of the responsibility (Grant and Chowdhury, 2022). Diabetics require ongoing patient education in order to get the best potential health results. The NSF for Diabetes (2001) Standard 3 makes it clear that the focus is shifting away from medical treatment and toward health care practitioners educating, supporting, and empowering people to take ownership of their own care.

It has been suggested in a recent Public Health Whitepaper that instead of treating disease, future healthcare services should emphasize health promotion (2010). According to the findings, life expectancy has only grown by a third, underscoring the need of making lifestyle changes and addressing health inequities if we are to achieve this objective (Choudhary et al., 2021). Diabetes patients spend an average of 3 hours a year seeing their doctor and 8700 hours managing their own health, so it makes sense to offer them with the information, skills, and resources they need to take care of their own well-being.

Patients with diabetes should be enabled to take control of their condition in order to improve their quality of life and save money for the health care system. Long-term consequences may be minimized by keeping blood glucose levels as near to normal as feasible. Health care providers may benefit from adopting the Diabetes Year of Care (2008) to move away from a paternalistic approach to care planning and toward a more personalized approach for patients with long-term diseases (Barone et al., 2021). Patients and healthcare providers work collaboratively to identify and prioritize their particular needs in this strategy.

Nurses and patients should work together to build individualized care plans that take into account the social context of the patient as well as the patient's own goals for self-care and service usage. With this technique, people will be able to take control of their own healthcare. Patients may acquire weight as a consequence of their sadness and the comfort food they eat, if they aren't encouraged to exercise (Carr et al., 2021). The patient's dejection is the most important issue here. The nurse may work with a variety of community organizations and social agencies to help the patient better control their weight and increase their physical activity.

Patient pathways and specialized care needs are well-known to nurses, who rely on them to guide and coordinate local and professional providers for diabetes patients. It's imperative that GP nurse groups take the lead on this project. Care planning has been identified by the Department of Health (2010) as an area requiring improvement in order to ensure that all patients with diabetes get individualized treatment programs (Tavaglione et al., 2021).

According to current statistics, just 60% of individuals in England with long-term diseases have an individual care plan in place. Diabetics may take charge of their own health by participating in self-management education programs, which provide patients with the knowledge they need to make educated decisions and take charge of their diabetes.

The Diabetes Self-Management Education (DSME) program was created to assist persons with diabetes in dealing with the physical and psychological consequences of their condition.

Recommendations

Showing and clearly explaining the insulin self-injection technique and encourage the user to re-perform it in order to demonstrate their understanding and evaluate the amount of injections and the timing of their injections in relation to meals, activities, and sleep. To avoid hypoglycemia and hyperglycemia, patients should be educated on the need of measuring their blood sugar levels before and after meals, as well as on how to correctly monitor their blood sugar levels (Bain et al., 2021). It will also be helpful in discussing the signs and symptoms to look out for if the illness worsens. The patient must be persuaded to wear an identification bracelet if he or she is unable to communicate and needs medical assistance. The patient's and his or her family's emotional well-being should be protected by imparting the same information.

Conclusion

Individuals may be unable to include the necessary amount of physical exercise into their daily routine owing to a number of factors, including a lack of time or a medical condition. All of the aforementioned barriers may have an impact on a patient's capacity to initiate and continue exercise, which is the most difficult aspect of exercise for patients.

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