



Diabetes and Employment

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Abstract

Uncomplicated diabetes does not require any adjustment regarding employment, but those with complications should undergo detailed assessment to determine safety and effectiveness to perform duties. Though there is no such guidance in India, the American Diabetes Association (ADA) adopted a position statement that any person with diabetes, whether insulin treated or non-insulin treated, should be eligible for any employment for which he/she is otherwise qualified. Patients suffering from diabetes should be assessed individually, and after reviewing medical and treatment history, medical fitness to the job should be assigned. Maintenance of proper medical documentation and use of screening guidelines are a must. For this to be implemented properly, one needs state and national laws. A health care professional (HCP) treating the employee though preferred should have expertise in treating diabetes. If there is a disagreement between the opinions of physicians, an independent opinion from a HCP with clinical expertise in diabetes should be taken. An employer should not enquire about an employee's condition till a job has been offered and can only do so if it is not safe or poses a threat to his health and also if expert opinion and medical documentation suggest so. Screening guidelines, though not used in India but regularly used in Western countries, can be used in evaluation. Safety risks should be assessed individually—recurrent hypoglycemia, not a single episode, may pose a risk whereas hyperglycemia and chronic complications though may not pose immediate risk should be assessed separately. Periodic safety assessments should be done. Jobs requiring operating firearms or running dangerous machinery may have safety concerns with patients having severe hypoglycemia or those on insulin or secretagogues. Hypoglycemia usually can be effectively prevented or self-treated by ingestion of glucose. Severe hypoglycemia requiring assistance may pose a risk; even if it is a single incidence, one has to be followed up properly and investigated to find out its cause. In recurrent severe hypoglycemia, as episodes cannot be explained, it is a risk for the employee himself as well as the public. Hyperglycemia

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leading to chronic complications is only relevant when it interferes with the performance in actual jobs. Self-monitored blood glucose measurements over a period of time give actual information and should be evaluated by a HCP with expertise in diabetes. Multiple incidents of severe hypoglycemia may pose a problem in high-risk occupations, and the factors responsible should be properly evaluated. Hypoglycemia unawareness increases the risk of a sudden episode of severe hypoglycemia and should be treated with changes in diabetes management. Chronic complications may pose a risk in some jobs, but if not present, possible future development should not be taken into consideration. The tools that do not accurately reflect the current state of diabetes like urine glucose and HbA1C should not be used. The term uncontrolled diabetes should also not be used as it is not well defined. A few accommodations are required at a job for diabetes patients to be able to perform their work responsibilities effectively and safely: testing blood glucose at regular intervals, administering insulin as and when required with proper storage facilities, access to snacks, and a flexible work schedule to accommodate needs and modifications if required for chronic complications.

Keywords Diabetes · Employment

As of 2015, more than 69 million Indians have type 2 diabetes (T2D) [1]. Thus, a larger number of people with diabetes will have to cope with the complications of this chronic disease. Uncomplicated diabetes, in general, usually has little or no impact on an individual's ability to do a job. Hence for most of the professions, employment decisions should not be based on the fact that a person is affected with diabetes. When questions arise about the medical fitness of a person with diabetes for any job, a health care professional (HCP) with expertise in treating diabetes should perform an individual assessment to determine whether that person can safely and effectively perform the duties of the job in question [2].

In 1984, the American Diabetes Association adopted the following position on employment:

Any person with diabetes, whether insulin treated or non-insulin treated, should be eligible for any employment for which he/she is otherwise qualified [2].

There is a lack of any such guidance in the Indian setting.

This document aims to provide some general guidelines for assessing individuals with diabetes for employment, including how to perform an assessment and what changes in the workplace may be needed to make the working environment conducive, for an individual with diabetes.

Evaluating Individuals with Diabetes for Employment

Recommendations

- People with diabetes should be individually considered for employment based on the requirements of the specific job and the individual's medical condition, treatment regimen, and medical history.
- A HCP with expertise in treating diabetes should perform an assessment, when questions arise about the medical fitness of a person with diabetes for a job

- Employment evaluations should be based on sufficient and appropriate medical data
- Screening guidelines and protocols can prove to be useful tools in making decisions about employment if they are used objectively and based on the latest scientific knowledge about diabetes and its management.

Restricting individuals with diabetes from certain jobs because of the diagnosis of diabetes or the use of insulin, without assessing the individual's abilities or circumstances is inappropriate. Such "blanket bans" are unwarranted.

Employment decisions should not be based on generalizations or stereotypes regarding the effects of diabetes since the impact of diabetes and its management varies widely among individuals. Therefore, a proper assessment of individual candidates for employment or current employees must take this variability into account.

In addition, state and national laws should be drawn up and enforced which will require employers to make decisions that are based on assessment of the circumstances and capabilities of the individual with diabetes for the particular job in question. This will also allow persons with diabetes to be protected from discrimination in employment and other areas.

Role of Health Care Professionals (HCPs)

An opinion from a HCP should be sought before any adverse employment decision, such as failure to recruit or promote or terminate.

Questions arising about the medical fitness of a person with diabetes for any job should be referred to a HCP who should perform an individualized assessment. The individual's treating physician is generally the HCP with the best knowledge of his/her diabetes. If the employer decides to use its own physician to perform the evaluation, it should be a HCP who has expertise in treating diabetes. Moreover, it is important to seek the opinions of the individual's treating physician and carefully consider it.

If there is a disagreement between the opinion of the employee's treating physician and that of the employer's

physician, the evaluation of the individual should be done by an independent HCP with significant clinical expertise in diabetes.

Individual Assessment

Employers should not enquire about an individual's diabetes status directly or indirectly before making a job offer. If required, a medical examination may be asked for, once an offer of employment has been made and before the person starts the job.

An employer may withdraw an offer from an individual with diabetes only if it is established that he/she cannot do the essential functions of the job or would pose a direct threat to his/her own health or safety.

An employer should not rely on a medical evaluation to deny an employment opportunity to an individual with diabetes unless it is conducted by a HCP with expertise in diabetes and based on sufficient and appropriate medical data.

An evaluation should never be made based only on one data, such as a single blood glucose result or A1C result.

Screening Guidelines

Various screening guidelines for evaluating individuals with diabetes in many high-risk jobs have been developed in Western countries, in recent years, for example; the US Marshall Service and Federal Occupational Health Law Enforcement Program Diabetes Protocol.

Though these are not India-specific, these guidelines/protocols can be useful tools in making decisions about individual candidates if they are used objectively and based on the latest scientific knowledge about diabetes and its management.

These available guidelines and protocols are listed below in [Appendix](#).

Evaluating The Safety Risk Of Employees With Diabetes

Employers who deny jobs they perceive all people with diabetes to be a safety risk based on misconceptions and lack of current knowledge about diabetes.

Recommendations

- Determine whether the concerns for safety risk are reasonable in the perspective the job duties the individual must perform.
- A single episode of severe hypoglycemia should not disqualify an individual from employment, but an individual with recurrent episodes of unexplained severe hypoglycemia may be unable to safely perform certain high risk jobs particularly jobs or tasks involving significant risk of harm

to employees or the public and must be evaluated appropriately.

- Hyperglycemia does not pose an immediate risk of sudden debility on the job.
- Long-term complications e.g. retinopathy, neuropathy, nephropathy or macrovascular heart problems should have a role in employment decisions only when they are established and may interfere with the performance of the actual job being considered.
- Proper safety assessments should include review of blood glucose test results, history of severe hypoglycemia, presence of hypoglycemia unawareness, and presence of diabetes-related complications.

Safety Concerns

While evaluating safety concerns, it is important to determine whether the concerns are reasonable in the perspective of the job duties the individual is expected to perform.

For most jobs (such as jobs in an office or retail) there is no reason to believe that the individual's diabetes will put other employees or the public at risk.

In other types of jobs (such as those where the individual must carry a firearm or operate dangerous machinery) the safety concern is whether the employee will become suddenly disoriented, which happens usually due to low blood glucose (hypoglycemia). These occur more commonly in people receiving certain types of treatment such as insulin or secretagogues like sulfonylureas either alone or in combinations.

Hypoglycemia

The recent American Diabetes Association guidelines define level [1] hypoglycemia as a blood glucose level < 70 mg/dL³. It is a potential side effect of some diabetes treatments, like insulin and sulfonylureas. It can usually be effectively self-treated by ingestion of glucose and is not often associated with loss of consciousness.

Severe hypoglycemia (level 3), that requires the assistance of another person, is a medical emergency [3]. Symptoms may include confusion, severe cognitive impairment or rarely loss of consciousness. Most individuals with diabetes can recognize the early warning signs and quickly self-treat the problem by drinking or eating. Also, with self-monitoring of blood glucose levels, it is easier to detect mildly low glucose levels which can then be self-treated [4].

A single episode of severe hypoglycemia should not disqualify an individual from employment. In the case of a single episode of severe hypoglycemia, detailed history and appropriate evaluation should be undertaken by HCP with expertise in diabetes to determine whether it was an isolated incident, what could be the cause of the low blood glucose, whether

adjustment to the OHA or insulin regimen may remove this risk etc. Also, the likelihood of such an episode happening again is to be assessed meticulously. Some episodes of severe hypoglycemia can be explained and corrected with the assistance of a diabetes health care professional.

On the contrary, recurrent episodes of severe hypoglycemia indicate that the individual may not be able to safely perform a job, particularly jobs or tasks involving significant risk of harm to employees or the public, especially when these episodes cannot be explained.

Hyperglycemia

High blood glucose levels (hyperglycemia) can cause long-term complications over years or decades but does not normally lead to any adverse effect on job performance. The symptoms of hyperglycemia generally develop over days and do not occur suddenly.

Though high blood glucose may cause long-term complications like neuropathy, retinopathy, nephropathy or cardiovascular disease, not all individuals with diabetes develop these complications. They only become relevant in employment decisions only when they are established and interfere with the performance of the actual job being considered, e.g. visual impairment, due to retinopathy, that interferes with performance of the job.

Aspects of a Safety Assessment

- Blood Glucose Test Results

A single blood glucose test result only gives information about an individual's blood glucose level at one particular point of time. Because blood glucose levels fluctuate throughout the day, one test result will not help in assessing the overall health of a person with diabetes. The results of a series of self-monitored blood glucose measurements over a period of time; however, can give valuable information about an individual's diabetes health. Blood glucose records should be assessed by a HCP with expertise in diabetes [4].

- History of Severe Hypoglycemia

An individual having diabetes over an extended period of time, and has not experienced severe hypoglycemia is unlikely to experience one in the future. Conversely, multiple incidents of severe hypoglycemia may pose a problem in high-risk occupations.

It is important to examine the circumstances of each incident, as some incidents can be explained due to changes in therapy regimen, intercurrent illness, or other factors and thus may be unlikely to recur.

- Hypoglycemia Unawareness

Over time, some individuals lose the ability to recognize the early warning signs of hypoglycemia. They are at increased risk for a sudden episode of severe hypoglycemia. However, there is a chance to lessen this risk with careful changes to the diabetes management regimen i.e., more frequent blood glucose testing or frequent meals.

- Presence of Diabetes-Related Complications

Chronic complications that may result from long-term diabetes involve the blood vessels and nerves. These problems can lead to amputation, blindness or other vision problems, including loss of vision, deteriorating kidney function, heart attack or stroke. These complications could affect job performance and safety; hence they should be evaluated by a specialist.

If complications are not present, their possible future development should not be taken into consideration, since with medical monitoring and therapies, these complications can often be avoided or delayed. Thus, many people with diabetes never develop any of these complications, and those who do generally develop them over a period of years.

- Inappropriate Assessments

The following tools do not accurately reflect the current state of diabetes and should not be used in an assessment of employment.

oUrine Glucose Tests: Not an appropriate and accurate method for assessing diabetes control. It is not a reliable or accurate indicator of blood glucose levels. Blood glucose monitoring is more accurate to measure glycemic control [5].

oHemoglobin A1C (HbA1C): Reflects average glycaemia over several months and correlate with mean plasma glucose levels. It provides HCPs with information about the effectiveness of the individual's treatment regimen, but is often misused in assessing whether an individual can safely perform a job. Because it is an identification of average glucose control, it is of low value in predicting short-term complications and shouldn't be used to evaluate employment situations. It doesn't provide information on whether the individual is at significant risk for hypoglycemia or suboptimal job performance.

oUncontrolled Diabetes: Sometimes an individual's diabetes is described as "uncontrolled," or "poorly controlled". These terms are not well defined and are not relevant to job evaluations.

III. Accommodating Employees With Diabetes

Recommendations

- Individuals with diabetes may need certain changes or accommodations at the job to be able to perform their work responsibilities effectively and safely.
- These include taking into consideration daily diabetes needs and, when present, the complications of diabetes. All such changes must be tailored to the individual and effective in helping the individual perform his or her job.

Accommodating Daily Diabetes Management Needs

It is impossible to provide an exhaustive list of potential changes an employer needs to make while accommodating an employee with diabetes. However, the key message in accommodating such an employee is to ensure that changes are tailored to the individual and effective in helping him/her perform their job.

Many of the requirements that employees with diabetes need daily are those that allow them to manage their diabetes in the workplace. They are usually simple and can be provided with little or no disruption in the workplace.

- **Testing Blood Glucose Breaks:** to allow an individual to test blood glucose levels when needed.
- **Administering Insulin:** to allow an individual to administer insulin when it is prescribed.
- **Storing Insulin:** to allow an individual to store insulin and other supplies if work conditions (such as extreme temperatures or long distance of travel) prevent the supplies from being carried by the person daily. A refrigerator is the basic requirement for storage of insulin [6].
- **Food and Drink:** Individuals with diabetes will need access to food and/or beverages during the day. This is especially important if the employee needs to respond to low blood glucose levels or maintain hydration if glucose levels are high. They should also be permitted to consume food or beverages as needed at their desk or work station.
- **Flexible Work Schedule:** Employees may need leave or a flexible work schedule to accommodate medical appointments or other diabetes care needs. Certain types of work schedules, e.g. shift workers, can make it difficult to manage diabetes effectively.
- **Complications of Diabetes:** For some individuals, it is also necessary to make modifications for long-term complications. For example, an employee with visual impairments owing to retinopathy may benefit from using a larger computer screen or other visual aids.

Most of the above changes can be made without putting other employees at risk, or disrupting the workplace.

Conclusion

Individuals with diabetes can and do serve as productive members of the workforce.

Employers should assume that people with diabetes have the same career goals and aspirations as any other employee. A person's diabetes should play no part in decisions about transfers and promotions. It is prudent to concentrate only on the appropriateness of the person's skills for a new position and determine if reasonable accommodations are needed. In order to gain greatest productivity from the employee, it is important to capitalize on the person's strengths and accommodate limitations.

The therapies for, and effects of, diabetes vary between individuals, so employers must consider each person's capacities and needs on an individual basis.

Appendix

1. American College of Occupational and Environmental Medicine's National Consensus Guideline for the Medical Evaluation of Law Enforcement Officers
2. National Fire Protection Association's Standard on Comprehensive Occupational Medical Program for Fire Departments
3. The U.S. Department of Transportation's Federal Motor Carrier Safety Administration's Diabetes Exemption Program
4. The U.S. Marshall Service and Federal Occupational Health Law Enforcement Program Diabetes Protocol

References

1. International Diabetes Federation. IDF Diabetes, 7 ed. Brussels, Belgium: International Diabetes Federation, 2015. <http://www.diabetesatlas.org>. Last accessed 27th March, 2017.
2. American Diabetes Association. Standards of medical care in diabetes 2014 (Position Statement). *Diabetes Care*. 2014;37(Suppl. 1):S112–7.
3. American Diabetes Association. Standards of medical care in diabetes 2017. *Diabetes Care*. 2017;40(Suppl. 1):S48–56.
4. American Diabetes Association. Self-monitoring of blood glucose (Consensus Statement). *Diabetes Care*. 1994;17:81–6.
5. American Diabetes Association. Tests of glycemia in diabetes (Position Statement). *Diabetes Care*. 2004;27(Suppl. 1):S91–3.
6. American Diabetes Association. Insulin administration (Position Statement). *Diabetes Care*. 2004;27(Suppl. 1):S106–9.