

Return-to-Work (RTW) Corner

Emerging vocational rehabilitation strategies for people with diabetes mellitus

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Abstract.

BACKGROUND: People with diabetes mellitus constitute an emerging vocational rehabilitation (VR) consumer population.

OBJECTIVE: The objective of this article is to (a) describe the characteristics and needs of Americans with diabetes mellitus, (b) examine the often devastating effects that this highly prevalent disease of the endocrine system has on employment and career development, and (c) suggest strategies that rehabilitation professionals can use to improve VR services and outcomes.

METHOD: Following an overview of the etiology, incidence, prevalence, and impact of this high incidence endocrinological disease, the authors present strategies to meet the service and support needs of Americans with diabetes mellitus across the phases of the VR process.

RESULTS: The importance of individualized case planning, employer consultation, workplace accommodations, interface with medical and mental health professionals, and adherence to self-care and symptom management regimens is emphasized throughout the article.

CONCLUSION: Diabetes mellitus is an emerging disability that can affect people of any age, one that disproportionately affects people of color and people who live in poverty. Rehabilitation professionals must be prepared to meet the service needs of this growing clientele.

Keywords: Diabetes mellitus, employment, COVID-19, rehabilitation, workplace, VR

1. Introduction

The three-fold purpose of this article is to (a) describe the characteristics and needs of Americans with diabetes mellitus, (b) examine the often devastating effects that this highly prevalent disease of the endocrine system has on employment and career development, and (c) suggest strategies that rehabilitation professionals can use to improve vocational rehabilitation (VR) services and outcomes for this growing but often underserved rehabilitation client-

tele. Proven vocational case management and service delivery practices are emphasized throughout the article and, in some cases, modified to address changes to the economy and to the modalities of consumer contact that have resulted from the coronavirus 2019 (COVID-19) pandemic.

2. Diabetes mellitus

Diabetes mellitus, hereafter referred to as diabetes, is a chronic disease that occurs when the pancreas does not produce sufficient insulin or when the body does not use insulin effectively [1, 2]. It affects 37.3

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million individuals in the United States and 422 million people globally and can contribute to serious health conditions such as blindness, heart attacks, and amputation. Diabetes has also been associated with chronic pain, cognitive impairment, fatigue, and Alzheimer's disease [1, 2]. Diabetes is categorized into three types, including type 1, type 2, and gestational diabetes [1]. Type 1 diabetes is characterized by insufficient insulin production, type 2 diabetes is characterized by ineffective use of insulin, and gestational diabetes is experienced by pregnant women who did not previously have diabetes [1, 2]. Approximately 90 to 95% of people with non-gestational diabetes have type 2 diabetes, whereas 5 to 10% have type 1 diabetes [1]. Common initial signs of diabetes include the following: frequent urination, excessive hunger or thirst, fatigue, acquiring infections more than usual, sores or lesions that heal slowly, and blurry vision [3, 4].

Lifestyle factors such as physical inactivity, poor nutrition, and obesity are strongly linked to type 2 diabetes, especially among children and the elderly [2, 3, 5]. Experts have pointed out that the risk of acquiring type 2 diabetes can be significantly reduced by maintaining a healthy diet, participating in regular physical activity, and avoiding tobacco use [6]. Other diabetes prevention strategies include behavior change counseling, group-based educational sessions, community referrals to weight loss or physical activity programs, and health information technologies [6].

The cause of type 1 diabetes is not known, it is unpreventable, and it is typically diagnosed during early childhood, most often between the ages of 10 and 14 years [7]. Individuals with type 1 diabetes are dependent on exogenous insulin for the rest of their lives. Among the most vulnerable people to the negative health-related consequences of type 1 diabetes are individuals who live in poverty and who have limited access to quality health care. These individuals have much shorter life expectancies following the onset of type 1 diabetes than do people who have the means to obtain treatment, especially insulin that must be injected into their bodies to metabolize blood sugar [8].

The pancreas's inability to produce sufficient insulin to process blood sugar brings with it a number of co-occurring disabilities and secondary complications for people with diabetes. Diabetes can cause damage to the heart, eyes, blood vessels, nerves, and kidneys [2]. Heart problems and stroke often co-occur with diabetes; 50 percent of people with diabetes die of cardiovascular disease. Neuropathy often causes

pain and numbness in the extremities. Decreased blood flow stemming from high blood sugar levels can cause skin ulcers, especially in the feet, that do not heal effectively. These unhealed ulcers often necessitate amputations of the toes, feet, and legs. Blindness and visual impairments are also common co-morbidities due to damage to the small blood vessels in the retina [3]. Indeed, diabetes is the leading cause of adventitious blindness and amputations in the United States [2, 3]. Because of the chronic nature of diabetes and its multiple and severe medical accompaniments, people with this disease are prone to experience mental health and interpersonal problems such as depression, anxiety, feelings of hopelessness, family role strain, and extreme psychological stress [3, 9]. Some individuals with diabetes may become suicidal if they have experiences of an overwhelming sense of powerlessness, hopelessness, isolation, or unbearable symptoms.

With symptoms that affect multiple organ systems and its dramatically increasing incidence, diabetes has been a growing global public health concern since the 1980s [10]. In 2012, 29.1 million Americans or 9.3% of the population had diabetes; now, more than 37 million Americans are living with the disease [3]. It has been estimated that approximately 1.25 million American children and adults have type 1 diabetes [4]. Globally, the prevalence of diabetes among people between the ages of 20 and 79 has been estimated at 387 million. It is projected that, by 2035, the worldwide prevalence figure will exceed 592 million [8]. The costs of diabetes are high for the individual, for employers, and for society. Experts report that diabetes is more expensive than many other chronic health conditions given the costs of prescriptions, co-payments for healthcare, hospitalizations, time off from work, surgeries, mental health treatment, transportation, and allied health services [11].

People with disabling conditions such as diabetes that are attributed by others to their lifestyle choices or risky behaviors may experience shame, guilt, and blame as well as ostracism from family members and friends [12]. Smart noted that, especially in our health conscious society, individuals with chronic conditions that are linked to unhealthy behavior (e.g., in the case of diabetes, eating unhealthy foods, alcohol consumption, obesity, physical inactivity) are often viewed by others as weak, lazy, or irresponsible. Family members, neighbors, and co-workers often verbalize resentment toward these individuals. These individuals are often blamed by others for raising

health care premiums, usurping scarce medical and healthcare resources, and increasing the costs of disability that are incurred by taxpayers. Blame from others may be internalized as self-blame that undermines willingness to participate in self-management activities [13].

Individuals with diabetes often encounter numerous barriers to employment. A systematic review of the literature demonstrated that people with diabetes have a higher likelihood of retiring early, exiting the workforce, and receiving permanent disability pensions than people with other chronic health conditions [14]. They can have a wide range of functional limitations that substantially interfere with their ability to work. The symptoms of diabetes can necessitate prolonged absences from work or flexibility in scheduling so that employees can attend doctor's appointments or participate in other treatment regimens to manage their illness [9, 15]. The wide range of symptoms that accompany diabetes can cause difficulties with performing essential job functions and can be exacerbated by on-the-job stressors. The cognitive and memory deficits associated with fatigue, poor oxygenation of the blood, and medication side effects can create imposing barriers to performing essential job functions [15]. Co-occurring depression can lead to absenteeism, impairment in completing cognitive tasks, and presenteeism (i.e., loss of productivity due to working while sick). Other on-the-job barriers stem from impaired vision and hearing loss from damaged nerves. Workers with diabetes may also experience negative reactions and workplace discrimination on the part of co-workers and employers; mistreatment and discrimination based on other characteristics of these individuals (e.g., race, gender, age); limited access to on-the-job accommodations; and unawareness of available services to support job retention [13, 16]. Employers may also not provide sufficient support for employees with diabetes due to a limited understanding of diabetes self-management [17]. In terms of racial/ethnic effects on diabetes, Hispanics with diabetes were more likely to retire prematurely in comparison to other racial and ethnic groups, possibly due to having insufficient knowledge of self-management, poor diabetes care, poor glycemic control, and lack of insurance coverage [18].

3. People with diabetes mellitus and the VR process

Given that diabetes affects more than 10 percent of all people in the United States, rehabilitation pro-

fessionals can expect to see large numbers of people with diabetes on their caseloads. Rehabilitation professionals must be knowledgeable about the medical, psychosocial, and vocational aspects of diabetes, and they must become familiar with proven return to work and stay at work strategies for people with chronic illnesses, including workplace accommodations [13]. Because of the chronic and often progressive nature of diabetes [11] and the extensive impact the disease has on multiple functional domains [9], VR planning must include an interdisciplinary team and a combination of medical and vocational supports that are sequenced in accordance with the person's age and stage of career development. In this section, we examine specific strategies that can be implemented at each phase of the rehabilitation process to improve services to individuals with diabetes.

3.1. Outreach and eligibility determination

Outreach and education efforts to recruit people with diabetes into the VR program should target endocrinologists, individuals with diabetes, other healthcare providers, large and small employers, and human resource professionals. Individuals with diabetes may not identify themselves as persons with disabilities [13], so they may be unlikely to view rehabilitation programs and agencies as potential resources. Therefore, it may be necessary to use language such as "people with chronic health conditions" in replacement of, or in addition to, "people with disabilities" in marketing and outreach materials, intake interviews, and eligibility criteria [19].

Diabetes is a highly stigmatized condition, owing largely to the unfortunate phenomenon whereby the general public often views the condition as the person's "own fault," that is, the result of poor diet, obesity, and ineffective general health practices [12]. Rehabilitation professionals must be cognizant of their own potential biases and how these could negatively influence their decisions regarding client/consumer eligibility. Misunderstandings increase when individuals with diabetes have periods when they have minimal symptoms; this often leads rehabilitation professionals to conclude that they do not need VR services. During periods of remission, people with diabetes are still protected by the Americans with Disabilities Act [20] and its amendments, and VR eligibility determinations should be made based on the aggregate of functional limitations that applicants experience within the entire course of their illness.

Finally, despite the common co-occurrence of depression with diabetes and the availability of depression screening tools, depression often goes unrecognized. Endocrinologists do not always screen for or even discuss depression with their patients [21]. As a result, rehabilitation professionals should screen for depression. Indeed, the presence of depression should be explored in the initial interview, consumers should be informed that its co-occurrence with diabetes is common, and they should be provided with resources about depression and diabetes, even if they do not report experiencing depression. If they do report experiencing depression, a referral for a psychological evaluation may be indicated for diagnosis and treatment recommendations.

3.2. *Assessment and planning*

Because diabetes is chronic and can be unpredictable and progressive, flexibility in sequencing rehabilitation service delivery is a necessity. Coordination of health care and rehabilitation services across care settings and among multiple providers is also necessary to ensure appropriate and timely rehabilitation plan development.

Diabetes can occur and be exacerbated during a wide age range, so it is imperative in VR planning to consider the developmental stage of the client both at diagnosis and when she or he presents for services. Work-related experiences such as volunteer jobs or paid part-time employment are crucial for developing employment-related skills that are generalizable to any work setting (e.g., showing up for work on time, following directions, responding to evaluative feedback, completing projects by their deadlines). Consumers with diabetes may also benefit from career exploration activities such as vocational evaluations, job shadowing, and informational interviewing.

For younger or middle-aged adults, the perception that their career goals have been thwarted by the diagnosis of a progressive chronic illness is an issue that may need to be addressed [14]. These individuals may benefit from counseling and guidance focused on their feelings about being diagnosed with diabetes and their worries about their futures. Rehabilitation professionals may want to educate these individuals about the psychological and physical benefits of continuing to work, in addition to the risks. Diabetes educators may also be included in the planning process so that consumers can gain a thorough understanding of diabetes and essential self-care and

self-management strategies. It is also important to inform consumers about on-the-job accommodations that can be used to assist them in achieving their career goals and reduce their perceptions that their careers have been thwarted.

Middle-aged adults may prematurely disengage from the workforce or have concerns about how much longer they can continue working. These individuals can benefit from job retention services (e.g., job analyses, accommodation planning, transfer to another position, enrollment in postsecondary institutions to prepare for new careers). Older adults may also have concerns regarding the longevity of their careers and fears that they may have to retire before they can afford to do so. These older adults can also benefit from job retention services. In addition, if their diabetes becomes too severe to continue working, they should be educated about employer benefits such as long-term disability or Social Security monetary and health insurance benefits [22].

In identifying employment goals, educating consumers about reasonable accommodations and assistive technology will expand their perceived career options. For many individuals with diabetes, career exploration should focus on occupations that allow employees to maintain flexible work schedules as well as the ability to work from home if necessary. People with diabetes often have informal or formal restrictions on their abilities to obtain a driver's license, so transportation to and from work is an important consideration. Some people with diabetes may need to avoid jobs that require driving. Transferrable skills analyses, whereby the person's prior work experience is evaluated for interests and skills that could be accessed in future career planning, can serve to further expand the consumer's employment options.

Another important component of the assessment and planning process is referring consumers to patient advocacy and self-help websites and support groups as well as self-management training programs.

3.3. *Counseling and guidance*

Although counseling may be necessary for individuals trying to cope with the many, varied, and complex emotions that arise with the experience of diabetes, many consumers may be skeptical of such an intervention. When discussing the possibility of counseling, rehabilitation professionals need to provide information that can reassure these consumers that their range of emotional responses is

“normal” for their circumstances and commonly experienced by others coping with diabetes [20]. Rehabilitation professionals can also use counseling and guidance to assist individuals to adjust to their diabetes, develop positive coping skills, acquire and use social support, and develop a sense of control over their diabetes [21]. These services not only enhance overall well being, but they can also prevent the onset of depression. Rehabilitation professionals and consumers with diabetes can explore referrals to appropriate support groups, self-management education programs, and self-help literature to put their personal experiences into perspective, reduce feelings of isolation and alienation, and learn coping strategies and other approaches to better manage their conditions. Counseling sessions, self-management education programs, and self-help groups can focus on a number of different wellness topics [13]. Counseling services can also help consumers communicate about their illness to potential employers, trainers/instructors, family members, and peers in a manner that is most likely to increase their understanding of diabetes as well as their willingness to provide the accommodations and supports requested. Without appropriate professional or social support and education about how to manage diabetes, many people with diabetes are at risk of social withdrawal, feelings of hopelessness and loss of control over their lives, and worries about their futures.

Undoubtedly, these psychological issues have become even more prominent in the midst of the COVID-19 pandemic. Counseling can help people with diabetes to process the psychological effects of COVID-19 social distancing requirements, as well as help people with diabetes develop technological skills that enable them to engage with important people in their lives during and in the aftermath of the global pandemic. Follow-along services to ensure the well being of these consumers are also critical. A weekly phone call from one’s rehabilitation professional can reduce the individual’s sense of isolation and ensure that the working alliance remains strong.

3.4. Job development and placement

In identifying and pursuing employment options, it is necessary to first explore quality of life issues with individuals with diabetes because these can have a prominent bearing on their willingness and capacity to work. The symptoms of diabetes (e.g., blurry vision, vision loss, slow healing sores, frequent infections, fatigue) may make it difficult to

participate in life activities other than working [3, 4, 17]. VR consumers with diabetes may have no energy left after work to socialize with family and friends or to participate in leisure activities that they enjoy. In these instances, it may be necessary to explore options other than employment, such as applying for long-term disability benefits offered by employers or Social Security Disability Insurance. Other individuals with diabetes may be so isolated that employment can improve their quality of life by providing opportunities to socialize with co-workers and increase their sense of purpose and self-worth. Here again, the use of modern technology that enables social connection while people observe social distancing requirements associated with COVID-19 becomes critically important. So, too, must rehabilitation professionals help people with diabetes to develop telecommuting accommodation strategies that enable them to work from home in the post-COVID economy [17].

For job seekers with diabetes who have already disengaged from the workforce for COVID-related and non-COVID-related reasons, barriers to employment may occur in at least five areas: accessibility of the worksite (both physical and attitudinal), performance of essential functions and requirements of the job, relationships with employers and co-workers, employment policies, and necessary work supports. Although traditional approaches to job placement and accommodation planning target each of these areas [22], concepts such as accessibility, reasonable accommodations, telecommuting and home-based employment, social distancing and immune safety, and universal design take on new meaning for workers with diabetes in the wake of the COVID-19 pandemic.

Mutambudzi and colleagues noted that people with diabetes often express limited knowledge of their legal rights in the workplace [17]. They need up-to-date and accessible information about the provisions of the Americans with Disabilities Act (ADA) and its amendments. Rehabilitation professionals must offer guidance and technical assistance regarding such processes of ADA implementation as requesting reasonable accommodations, documenting disability status, and making formal complaints of employer discrimination. It is also important to begin the accommodation planning process by discussing with individuals with diabetes the coping strategies and accommodations they use in their daily lives because many of these can easily be translated into on-the-job accommodations [15]. Employers may need to be educated about the low cost and ease of most

accommodations (e.g., flextime, flex place, telecommuting, schedule modifications, natural supports) for workers with diabetes. The Job Accommodation Network (JAN) is a useful resource for exploring possible accommodations for individuals with diabetes. One potentially positive outcome of the COVID-19 pandemic is that, because so many workers are now telecommuting, the option of working from home will be more readily available, not only as a reasonable accommodation, but as an alternative for larger numbers of employees than ever before.

3.5. *Job retention, follow-up, and return-to-work services*

Recent empirical findings underscore the importance of training, job retention, and return-to-work services in helping people with diabetes remain in the labor force. Among various VR services, on-the-job supports and college or university training were identified as the services that most strongly enhanced the chances of competitive employment in people with diabetes [23]. For adults with diabetes who are older than 55 years of age, rehabilitation technology was identified as an important predictor of job retention [24]. Additionally, individuals with diabetes perceived employer support is linked to goal attainment in their occupational and personal lives [24]. Rehabilitation professionals should provide information to employers on how to support employees with diabetes so they can manage their diabetes effectively in the workplace [24].

In the context of COVID-19, people with diabetes have reported being worried about the cumulative effects of diabetes and COVID-19 and “not being able to manage diabetes if infected...” [25]. The COVID-19 pandemic also presented barriers to diabetes self-management, including limited access to healthcare providers, resources, and support [26]. Given that people with diabetes may have COVID-19-specific worries [25] and experience difficulties in self-management behaviors [26], this can also influence their employment situations.

4. Conclusion

Diabetes mellitus is a major public health concern in the United States and worldwide. People with diabetes constitute a growing yet underserved clientele for rehabilitation professionals, owing largely to the multi-systemic and progressive nature of the disease.

With that in mind, this article has presented considerations for providing responsive VR services to individuals with diabetes, in keeping with the changes to the domestic and global labor force that have been brought about by the COVID-19 pandemic. Each of the sequential phases of the VR process requires careful examination of the medical, psychosocial, technological, career development, and community living issues that face people with this epidemic disease.

Conflict of interest

None to report.

Disclaimer

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