Diabetes and Disabilities
American Association of Diabetes Educators (AADE) Practice Paper

In 2015 an estimated 40 million people in the United States (U.S.) reported some type of disability.[1] People with diabetes, in general, report rates of disability that are significantly higher than those reported by the general U.S. population.[2] Common disabling conditions among people with diabetes in the U.S. include mobility limitations (63% of people with diabetes[3]), depression (twice as prevalent among people with diabetes as among those without)[4], hearing loss (twice as common among people with diabetes as among those without)[5], peripheral neuropathy (60-70% of people with diabetes[6]) and visual impairment that limits ability to read regular print (approximately 19% compared to 9% for those without diabetes[3]).

Definition of Disability

In this practice paper, disability is defined as a condition that substantially limits one or more major life activities. This definition focuses on a functional limitation and not on specific measurements of ability or on the source of the disability. Disabilities may be categorized as communicative, mental, or physical.[7] Examples of communication disabilities include blindness, low vision, deafness, difficulty hearing, problems speaking or difficulty understanding speech. Examples of mental disabilities include learning, intellectual, developmental disabilities as well as chronic major depression, autism, schizophrenia, Alzheimer's disease, senility, or dementia. Physical disabilities include, but are not limited to amputation of all or part of a limb, paralysis or neuropathy.

For a person with diabetes, any disability can impact diabetes self-management activities. For example, a person whose vision loss does not meet criteria for legal blindness may nevertheless have limited ability to take oral medication correctly or adjust insulin doses per recommendations. Decreased manual dexterity can limit the patient's ability to handle small pills, administer insulin, monitor blood glucose, prepare meals, or lead an active lifestyle. Hearing loss may limit the patient's ability to grasp information presented in oral format.

Role of the Diabetes Educator

Diabetes educators play a key role in the diabetes care of individuals with disabilities by providing diabetes self-management and support (DSME/S) in a way that enables them to optimize goals as for persons with no current disability. Diabetes educators must plan DSME/S, for individuals with disabilities, so that both the process and the content of DSME/S are accessible and meaningful. Diabetes educators should include assessment of both obvious and hidden disabilities for each individual, using open-ended questions about the presence of any physical, mental, or emotional conditions that could affect learning.

The Competencies for Diabetes Educators and Diabetes Paraprofessionals states that diabetes educators should provide diabetes education and coordinate diabetes support in a culturally-competent manner across the lifespan including the ability to incorporate sensitivity and respect when educating all persons irrespective of ethnicity, race, age, socioeconomic status, physical or cognitive disabilities or gender choice. Additionally, it notes that diabetes educators should be able to implement and evaluate an education plan based on assessment of risks for diabetes complications and strategies for reducing risk, facilitate the development of personal strategies to accommodate sensory or physical limitation(s), adapt to new self-management demands, and facilitate behavior change.[8]

The Diabetes Self-Management Education and Support in Type 2 Diabetes Algorithm emphasizes that an important time to assess, provide and adjust DSME/S is when new complicating factors influence self-management or when transitions of care occur. DSME/S should focus on providing support for the provision of self-care skills in an effort to delay the progression of the disease and prevent new complications, develop personal strategies to accommodate sensory or physical limitation(s), adapt to new self-management demands, and promote health and behavior change. Additionally, it encourages diabetes education providers to identify needed adaptations in diabetes self-management, provide support for independent self-management skills and self-efficacy as well as assist with facing challenges affecting usual levels of activity, ability to function, health beliefs, and feelings of well-being.[9]

Educating persons with diabetes and disability requires communication among all health care team members and sharing of information regarding the impact of the disability on each individual DSMES plan. Diabetes educators should advocate for support for those with disabilities to ensure access to quality healthcare.

Universal Design

Universal design is defined as the design of products, environments, and services to be effectively and efficiently used by persons with the wide range of abilities to the greatest extent possible, without adaptation or specialized design.[10] A key concept is that a typical target population normally includes persons with a wide range of abilities and disabilities. In general, successful universal designs expand access for people with disabilities at a lower cost while also providing benefits for average users of a product or service. Universal design is conceptualized as a process, not an end point, as part of continuous quality improvement.

The seven principles that describe characteristics that make designs universally usable are:

1. Equitable Use: The design is useful and marketable to people with diverse abilities.
2. Flexibility in Use: The design accommodates a wide range of individual preferences and abilities.
3. Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

6. Low Physical Effort: The design can be used efficiently and comfortably and with a minimum of fatigue.
7. Size and Space for Approach and Use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Reasonable Accommodations for Providing DSME/S in the Office

Reasonable accommodations for DSMES can include, but are not limited to:

- Locating DSMES services in a building that is accessible to wheelchairs.
- Using an alternative method of communication, such as TTY or a sign language interpreter, for a person who is deaf.
- Providing DSMES take-home materials in audio format for persons who have dyslexia or low vision.
- Using pictograms for people with cognitive issues, teaching smaller amounts of material with more frequent visits for persons with short attention spans.
- Allowing service animals in conferences or offices.

Recommendations

- Provide DSME/S for persons with disabilities in a way that allows them to optimize goals.
- Incorporate principles of universal design in the planning, implementation, follow-up, and evaluation of DSME/S programs.
- Include assessment of both obvious and hidden disabilities for each individual.
- When working with an individual who has a disability, assume responsibility for learning about both the effect of that disability on DSME/S and the tools and techniques available for self-management with that disability.
- With permission from the patient, communicate with other rehabilitation professionals involved in the care of that patient.
- Make referrals to rehabilitation services as appropriate and to consumer disability organizations when these are available.
- Encourage manufacturers and publishers of both diabetes consumer technology and diabetes instructional materials to adopt universal design principles.

Conclusion

Diabetes educators should both employ and encourage the use of universal design principles. They should design diabetes education programs to be accessible to most individuals without needing special adaptations for common disabilities. Educating patients with diabetes and disability requires appropriate assessment of the patient's needs, communication among all healthcare team members and application of the information in designing the personalized DSME/S plan.

Acknowledgements

Connie Kleinbeck RN, MSN, CDE; Lisa Golden

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