

The Diabetes Attitudes, Wishes, and Needs (DAWN) Study

Reviewed by Martha M. Funnell, MS, RN, CDE

STUDY

The Diabetes Attitudes, Wishes, and Needs (DAWN) Study. Results reported in multiple published articles in 2005 and 2006.

SUMMARY AND COMMENTARY

Although data about the benefits of near-normal glucose control are widely accepted, and therapies for diabetes care are more efficacious and accessible than ever before, outcomes remain less than optimal. Data from a recent update of the National Health and Nutrition Examination Survey¹ indicate that only 42% of adults have hemoglobin A_{1c} (A1C) values < 7%, and one in five still have A1C levels ≥ 9%. Clearly, factors other than knowledge and effective therapies affect the behaviors of patients and health professionals and influence their ability to make optimal use of available treatments.

The DAWN study was a cross-sectional international survey initiated in 2001 by Novo Nordisk in collaboration with the International Diabetes Federation. The purpose of the survey was to identify a broad set of attitudes, wishes, and needs among both people with diabetes and care providers to lay a foundation for efforts to improve diabetes care nationally and internationally.²

To conduct the study, researchers carried out structured interviews in person or by telephone in 11 regions representing 13 countries, including the United States. Survey participants included 250 randomly selected generalist and specialist physicians per region ($n = 2,705$), 100 randomly selected generalist and specialist nurses per region ($n =$

1,122), and 250 randomly selected patients with self-reported type 1 diabetes per country and 250 patients with self-reported type 2 diabetes ($n = 5,104$).² The study assessed several factors related to quality of diabetes care: levels of diabetes self-management and psychological distress among people with diabetes, quality of relationships between people with diabetes and their care providers, collaboration among diabetes care providers, and barriers to effective medication therapy.³

Findings

The results of the DAWN study have been reported in multiple articles.³⁻⁷ This review summarizes key findings from those publications.

Self-management behaviors

Reported rates of self-management behaviors were low, especially for diet and exercise.^{3,4} Only 19.4% of participants with type 1 diabetes and 16.2% with type 2 diabetes reported that they completely carried out all of the recommendations they had been given. Providers rated patient behaviors substantially worse, with only 7.3% estimating that their typical type 1 patient was completely adherent, and even fewer (2.9%) estimating that their typical type 2 patient completely followed their recommendations.³

Diabetes-related distress

Diabetes distress was common, and providers generally recognized that patients were concerned and that these issues interfered with their self-management efforts.^{3,4} A large majority of the

patient participants (85.2%) reported a high level of distress at the time of diagnosis, including feelings of shock, guilt, anger, anxiety, depression, and helplessness. Many years after diagnosis (mean duration almost 15 years), problems of living with diabetes remained common, including fear of complications and immediate social and psychological burdens of caring for diabetes.³ Forty-one percent of patients had poor well-being; however, only 10% reported receiving psychological treatment.⁴

Nurses perceived a significantly higher prevalence and severity of psychosocial problems and used psychological strategies more frequently than did physicians, although they rated their skills lower.⁵ Both groups used these strategies more often when they believed more patients had psychosocial problems and that these problems affected glycemic control. Nurses were more likely than physicians to believe that psychosocial issues affected self-management. In comparison with other countries, U.S. providers provided more psychosocial care themselves but were less likely to refer patients to mental health specialists.⁵

Quality of relationships between providers and patients

A large majority of patients (88.8%) rated the quality of their relationships with their providers as good. Most providers, however, reported that they needed a better understanding of the psychosocial consequences of diabetes (69.8%) and the various ethnic cultures with whom they work (78.8%).³ Better patient-provider collaboration was

associated with more favorable ratings on all outcomes.⁶ Patients with fewer resources and more complications reported less access to care and lower collaboration with their providers.⁷

Provider collaboration

Team care was less than optimal, with most patients seeing fewer than two other providers, including a primary care provider or diabetes specialist physician, diabetes nurse, dietitian, eye doctor, foot doctor, or behavioral specialist. Team care was rated significantly higher among patients with type 1 diabetes than among those with type 2 diabetes.⁵ Patients who had a nurse available at their provider's office reported better self-management behaviors.⁷ Only half of the patients felt that their providers talked with each other about their care.³

Providers rated their chronic care systems and payment for diabetes care as mediocre.⁷ The United States received the lowest rating for the quality of the chronic care health system. Patients reported that access to care was high, but not without financial barriers.

Barriers to the effective use of medication therapy

Patients and providers identified several barriers to use of medications. Patients using medications reported that their treatment is too complicated, and more than one-third said they were tired of taking their medications. Interestingly, patients rated the efficacy of insulin therapy as low,⁸ with only 26.9% of those not taking insulin reporting that insulin would help them to manage their diabetes better.³ Self-blame was also common among patients but was significantly lower among those who reported better diet and exercise self-management and less diabetes-related distress.

Of providers, 43.4% preferred to delay initiation of medications until absolutely necessary,³ but specialists and opinion leaders were less likely than nurses and general practitioners to delay insulin.⁸ Delays in initiating oral medica-

tions and insulin were strongly linked. The potential initiation of insulin as a threat to encourage diet and exercise behaviors was also common among health care providers, particularly in the United States.⁸

Implications

As a result of the DAWN study, the second International DAWN Summit was held in London in 2003 to initiate concrete actions. Five goals and strategies of DAWN were identified at this meeting:³

- Promote active self-management.
- Enhance psychological care.
- Enhance communication between people with diabetes and health care providers.
- Promote communication and coordination among health care professionals.
- Reduce barriers to effective therapy.

Concrete actions to achieve these goals were identified as:

- Raise awareness and advocacy.
- Educate and mobilize people with diabetes and those at risk.
- Train health care providers and enhance their competencies.
- Provide practical tools and systems.
- Drive policy and health care systems change.

The DAWN study confirmed what many health care professionals and people with diabetes have known intuitively for years: that diabetes causes multiple psychosocial problems, that these issues are barriers to achieving adequate glycemic control and interfere with self-management behaviors, and that our current health care systems are poorly equipped to handle and support chronic illness care. Although this evidence is useful, it is imperative that these issues be addressed, both individually and collectively, by health care professionals, patients, policy makers, and payers if diabetes care is ever to reach the potential that the therapies and technologies make possible.

REFERENCES

¹Saddinne JB, Cadwell B, Gregg EB, Engellau MM, Vinicor F, Imperatore G, Narayan KMV: Improvements in diabetes processes of care and intermediate outcomes: United States, 1988–2002. *Ann Intern Med* 144:465–474, 2006

²Alberti G: The DAWN (Diabetes Attitudes, Wishes, and Needs) study. *Pract Diabetes Int* 19:22–24, 2002

³Skovlund SE, Peyrot M, on behalf of the DAWN International Advisory Panel: The Diabetes Attitudes, Wishes, and Needs (DAWN) program: a new approach to improving outcomes of diabetes care. *Diabetes Spectrum* 18:136–142, 2005

⁴Peyrot M, Rubin RR, Lauritzen T, Snoek FJ, Matthews DR, Skovlund SE: Psychosocial problems and barriers to improved diabetes management: results of the cross-national Diabetes Attitudes, Wishes, and Needs study. *Diabet Med* 22:1379–1385, 2005

⁵Peyrot M, Rubin RR, Siminerio L, on behalf of the International DAWN Advisory Panel: Physician and nurse use of psychosocial strategies in diabetes care: results of the cross-national Diabetes Attitudes, Wishes, and Needs study. *Diabetes Care* 29:1256–1262, 2006

⁶Rubin RR, Peyrot M, Siminerio L, on behalf of the International DAWN Advisory Panel: Health care and patient-reported outcomes: results of the cross-national Diabetes Attitudes, Wishes, and Needs study. *Diabetes Care* 29:1249–1255, 2006

⁷Peyrot M, Rubin RR, Lauritzen T, Skovlund SE, Snoek FJ, Matthews DR, Landgraf R, International DAWN Advisory Panel: Patient and provider perceptions of care for diabetes: results of the cross-national DAWN study. *Diabetologia* 49:279–288, 2006

⁸Peyrot M, Rubin RR, Lauritzen T, Skovlund SE, Snoek FJ, Matthews DR, Landgraf R, Kleinbreil L, the International DAWN Advisory Panel: Resistance to insulin therapy among patients and providers: results of the cross-national Diabetes Attitudes, Wishes, and Needs study. *Diabetes Care* 28:2673–2679, 2005

Martha M. Funnell, MS, RN, CDE, is co-director of the Behavioral, Clinical, and Health Systems Intervention Research Core at the Diabetes Research and Training Center of the University of Michigan in Ann Arbor. She is an associate editor of Clinical Diabetes.

Note of disclosure: Ms. Funnell has received honoraria or consulting fees from and has served on advisory panels, including the DAWN Advisory Panel, for Novo Nordisk, which sponsored the DAWN study.