Rethinking the Triad of Diabetes Management in the New Millennium

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Historically, few individuals developed what is now known as type 2 diabetes, because a sedentary lifestyle and access to calories in excess of daily requirements was an unimaginable luxury for all but a few. When insulin-requiring diabetes did occur, it was extremely rare. For centuries, the only therapeutic options were dietary management and the promotion of physical activity. However, these strategies were usually short-lived.

Author Michael Bliss, in his book, *The Discovery of Insulin*, describes in detail many of the early diets used to treat diabetes.1 One, known as the Allen Starvation Diet, was prescribed for the treatment of diabetes from 1910 to 1921.2 The goal of this diet was to extend life for several months to years.

The nutritional strategies of this “starvation” approach are outlined in alarming detail in the 1921 4th edition of the book, *The Allen (Starvation) Treatment of Diabetes with a Series of Graduated Diets.*3 The book, co-written by a dietitian, included the following starvation procedure: fasting the affected individual until glucosuria cleared, then initiating the consumption of moderate quantities of protein and fat with only small amounts of carbohydrate. The starvation diet also suggested the inclusion of 1.5 oz of whiskey. The alcohol provided additional calories as well as helped to make patients more comfortable as they were starving. The book then provided a series of maintenance diets that could be used after the starvation phase had reduced glucosuria. The book’s preface stated it plainly: “It is not particularly important for a diabetic to know a great deal concerning the theory of the disease, but it is vital for him to be able to plan his diet intelligently, and to cooperate with his physician.”2

After 1922, practitioners had another diabetes management tool: insulin. Regrettably, insulin was in short supply, and its purity was often questionable. In addition, methods to determine glycemic control were still crude. Practitioners relied on the results of the Benedict’s solution urine test to titrate insulin doses. However, despite the discovery of insulin, dietary management continued to be the primary management tool.

Recently, a colleague was given a copy of *Diabetic Manual, for the Mutual Use of Doctor and Patient*, a book published in 1933 by Elliot P. Joslin, MD, and one of his own patients.3 My colleague was kind enough to share this treasure with me. Joslin often has been credited with developing the concept of the diabetes management team, in which the person with diabetes is at the center of the team. The manual was written scarcely a decade after the discovery of insulin and includes some insightful comments and anecdotes that are still applicable today. A majority of this manual is devoted to the thorough explanation of how to manage diabetes, not just with insulin, but also with the “diabetic diet.”

In chapter 10 of Joslin’s manual, titled “The Treatment of Diabetes with Diet and Insulin,” Dr. Joslin eloquently illustrates what we all know as the triad of diabetes management: True, it is a fight, but there is pleasure in the struggle. Victory comes to the courageous; and without courage and common sense, success awaits no one. I look upon the diabetic as charioteer and his chariot as drawn by three steeds named Diet, Insulin, and Exercise. It takes skill to drive one horse, intelligence to manage a team of two, but a man must be a very good teamster who can get all three to pull together.4

Dr. Joslin goes on to describe the complementary use of insulin and diet to manage diabetes:

*Insulin is a comfort to the doctor and patient. Insulin has revolutionized diabetic treatment in more ways than one. It has given the diabetic more food, strength, and weight, but it has also carried to the doctor and to the patient a knowledge and respect for the diabetic diet such as never before existed. If the diabetic wishes to get his money’s worth for the insulin he injects, he realizes that he must know how much to eat. Good health, not tolerable health, is the right of the diabetic today and this is the realization for the use of insulin. Insulin, the second horse of the diabetic’s chariot, is a clever steed, practically never fails to do what he is asked, but unless understood, may run away with the driver. One needs a good many lessons and much practice to ride a horse, and this Insulin horse is no exception.*

Unfortunately, diet in particular continues to be a difficult management strategy to implement. It can be easier for us as clinicians to get our patients to agree to take a pill or an insulin injection than to lose a few pounds, count carbohydrates, or start a physical activity program.4

Editorial
In a survey of more than 2,000 adults with diabetes, the barrier most frequently cited to achieving self-management goals was adherence to diet and exercise. This is a dramatic departure from Joslin’s era, when he spent one-third to one-half of a patient appointment learning what the patient had eaten.

In his manual, Joslin also thanked the dietitians at New England Deaconess Hospital for designing standard diet plans for his patients to follow. He admitted that the diets may have seemed complicated at first, but in reality, they were very simple to follow. As a registered dietitian with almost 30 years of experience, I actually had to read the diet treatment chapter more than once to understand it. I came away with a new appreciation for our long-lived insulin-requiring patients.

These early diets were extremely paternalistic and inflexible. No wonder these older patients have a hard time with the concept of matching their mealtime insulin dose to their “desired food intake.”

As I reviewed the articles in this issue’s From Research to Practice section devoted to eating disorders in type 1 diabetes, I contemplated what Joslin would have had to say about this topic. How would he have responded to an individual who would consciously withhold this life-saving medication, as well as food, in an effort to lose weight? This is a complication of insulin-requiring diabetes that he probably never imagined.

Our research section guest editors, Amy Criego, MD, MS, and Joel Jahraus, MD, have gathered articles from experts in the field to address this overlooked topic in detail. The articles reinforce the need to include the services of a mental health professional on the diabetes team. Diabetes is a chronic condition that necessitates the ongoing incorporation of behavioral health strategies and often the services of a mental health professional to self-manage over many years.

In closing, I challenge present-day diabetes educators and practitioners to consider a fourth steed for Joslin’s chariot, that of Behavioral Health. The inclusion of a fourth steed can further assist people with diabetes on their long and sometimes bumpy road of life—one that, we hope, will be free of complications.

References
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