

## Involving culinary science as part of the diabetes care team

Sanjay Kalra,<sup>1</sup> Nishant Choubey<sup>2</sup>

### The Dietician as Part of Diabetes Care Team

Diabetes is a multi-faceted syndrome, and diabetes care is a team effort.<sup>1</sup> One of the most important persons in the diabetes management team is the dietician.<sup>2</sup> While the term 'nutritionist' implies a person with a theoretical knowledge of nutrition science, the dietician is expected to master both theory and practical application.

As defined by the International Confederation of Dietetics Associations, "a dietician is a person with a qualification in nutrition and dietetics recognized by national authority (s). Dietitians and nutritionists are widely recognized as health professionals who promote health through food and nutrition.<sup>3</sup> They also help prevent and manage diabetes and its complications.

### Culinary Science

The ever-increasing size, and scope, of the diabetes epidemic, however, means that we need more and more support.<sup>4</sup> Recent trends in patient empowerment and patient advocacy suggest that persons with diabetes expect, and shoulder, a greater role in their management. It is also clear that a lot needs done to promote healthy eating behaviour, and improve adherence to medical nutrition therapy.

One profession, which can help persons with diabetes live a better life, is culinary science. Culinary science at its simplest, is the science of cooking, i.e., food preparation.<sup>5</sup> Another term, though not so popular, which blends the culinary arts with the science of food, is culinology. Food science, per se, is defined as the study of the physical, biological, and chemical makeup of food; and the concepts underlying food processing. The Greek-derived word, bromatology, refers to the science of foods.

### Diabeto-Culinary Synergy

The culinary expert combines both science and art to produce food which is acceptable to the individual. She prepares edible dishes, working with a variety of raw products and instruments, following the rules of her science. Each product is unique, and varies according to

.....  
<sup>1</sup>Department of Endocrinology, Bharti Hospital, Karnal, <sup>2</sup>Department of Culinary Science, The Roseate, New Delhi, India.

**Correspondence:** Sanjay Kalra. Email: brideknl@gmail.com

**Table-1:** Similarities between culinary experts and diabetes care professionals.

Both:

- ◆ serve individuals as well as society
- ◆ incorporate Biomedical, psychological, and social elements in their work
- ◆ aim to improve quality of life
- ◆ practice science and art
- ◆ follow person-centered philosophy
- ◆ offer individualized services
- ◆ share decision making with customers
- ◆ use food as an ingredient of therapy
- ◆ innovate to meet newer challenges
- ◆ need customer feedback to improve

**Table-2:** Potential contribution of culinary experts to diabetes care.

- ◆ Promotion of the human angle of living with diabetes
- ◆ Provision of an affable, friendly face to diabetes care
- ◆ Use of diabetes-friendly methods of cooking
- ◆ Creation of diabetes-friendly recipes
- ◆ Involvement of family members
- ◆ Sensitization of community
- ◆ Education of other members of diabetes care team
- ◆ Inclusion of diabetes health in culinary agenda and discourse
- ◆ Availability of diabetes-friendly foods in restaurant/hotel menus
- ◆ De-stigmatization of 'diabetes foods' or 'diabetic menus'

the needs and wishes of the customer.

In all these aspects, the culinary scientist is like the diabetes care professional (Table-1). Both provide evidence-based service, in a person-centered manner. Both offer individualized solutions, taking into account the "attitudes, wishes and needs" of the consumer. Both practice the concept of shared decision making, and welcome feedback from their consumers to improve the quality of their service. Both exist for the consumer, rather than vice-versa.

### Diabeto-Culinary Potential

These similarities should suffice to explain the potential synergy between culinary specialists and diabetes care professionals. Yet, the list does not end here. The culinary graduate is an expert in preparing tasty food. With inputs from dietitians and diabetologists, she can prepare recipes which are not only nutritionally "correct", but also feasible and friendly for both palate and wallet.

The culinary palette, in fact, can work on the bio psychosocial model of health, i.e., ensure biomedical appropriateness, psychological attractiveness and social acceptability in their food products. Such a move, spearheaded by "therapeutic chefs" or "metabolic chefs" will create a social marketing wave around diabetes cuisine, and help propagate healthy eating in the community at large.

### Culinary Science and Autonomic Nervous Health

The construct 'psychological appeal' is an important aspect of culinary science. All five senses are utilized while assessing food. Vietnamese cuisine, in fact, is based upon a pentad: every food must appeal to sight, touch, taste, smell and hearing.<sup>6</sup> In biomedical terms, the culinary enthusiast tries to stimulate all senses, or all parts of the nervous system, i.e., autonomic, peripheral and central nervous systems.

Neuropathy is a common complication of diabetes, for which no single effective treatment is available.<sup>7</sup> Can culinary practice be used to facilitate autonomic and sensory nervous function awareness, promote self-neurologic awareness and prevent, delay or even reverse neuropathy? Application of culinary science can increase acceptance of "healthy" diets. This can be done by enhancing visual appeal, improving taste and odor, and providing variety.

### Impact on Family and Society

Inclusion of culinary scientists in the diabetes care team may be beneficial in many ways, Discussion about metabolically friendly therapeutic and preventive recipes encourages active participation of persons with diabetes in meal-related decision making and activity, and sets the stage for active shared decision making in other aspects of diabetes management.<sup>8</sup> The benefits percolate to family members and caregivers of people with diabetes as well. Mothers and wives struggle to create appetizing, yet healthy, dishes for their loved ones who live with diabetes. Contact with culinary experts will help them in this endeavor.

It is said that diabetes is a disease of the community, rather than an individual. Societal attitudes and practices influence diabetes control to a great degree. Celebrity chefs can leverage their brand equity to promote healthy

cooking in society. This will help not only in management, but also prevention of diabetes. Active involvement of non-medical professions in diabetes awareness campaigns may help rebuild and strengthen trust between patients and physicians as well.<sup>9</sup>

### Summary

To build upon these common factors, both culinary science and diabetes care organizations need to work in synergy. Both disciplines need to understand each other's strengths and competencies, as well as realize their needs. The benefits will be humungous. Culinary experts will be able to differentiate between "e-hearsay" and actual science, while planning menus for metabolically challenged individuals. They will help diabetes care providers improve their service by incorporating visual, olfactory, gustatory and tactile appeal into existing diabetes menus. This interaction will encourage other stakeholders, such as family members, philanthropic organizations, and the community, to contribute actively to diabetes care. In every way, the person with diabetes will benefit.

### References

1. Wagner EH. The role of patient care teams in chronic disease management. *BMJ* 2000; 320: 569.
2. Huang MC, Hsu CC, Wang HS, Shin SJ. Prospective randomized controlled trial to evaluate effectiveness of registered dietitian-led diabetes management on glycemic and diet control in a primary care setting in Taiwan. *Diabetes Care*. 2010; 33: 233-9.
3. International Confederation of Dietetics Associations. Cited on 15 May 2017. Available from URL: <http://www.internationaldietetics.org/About-ICDA/What-we-do.aspx>.
4. Powers MA, Bardsley J, Cypress M, Duker P, Funnell MM, Fischl AH, et al. Diabetes self-management education and support in type 2 diabetes: a joint position statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. *The Diabetes Educator*. 2017; 43: 40-53.
5. Culinary science. Cited on 15 May 2017. Available from URL: <http://www.thesaurus.com/browse/culinary%20science>.
6. Philosophy of Vietnamese cuisine. Cited on 15 May 2017. Available from URL: <https://web.archive.org/web/20131122014152/http://www.vietnamtravelinformation.net/About-vietnamese-food/philosophy-of-vietnamese-cuisine.html>.
7. Javed S, Petropoulos IN, Alam U, Malik RA. Treatment of painful diabetic neuropathy. *Ther Adv Chronic Dis*. 2015; 6: 15-28.
8. Kalra S, Baruah MP, Das AK. Diabetes therapy by the ear: A bi-directional process. *Indian J Endocrin Metab* 2015; 19 (Suppl 1): S4-S5.
9. Kalra S, Unnikrishnan AG, Baruah MP. Interaction, information, involvement (the 3I strategy): Rebuilding trust in the medical profession. *Indian J Endocrin Metab* 2017; 21: 268-70.