The gastrointestinal system: a piece of cake

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PHYSIOLOGY TEACHING often comprises of a large percentage of didactic lectures. A 1-h didactic lecture is often much longer than the average attention span of most students (2). It is preferable to use different methods to decrease the possible monotony of the didactic lecture (1). This is even more important when the topic being discussed has a greater number of facts that require memorizing. In this article, we describe a simple activity that can be used to enliven didactic teaching of the gastrointestinal system. This involved baking a cake and looking in detail at the ingredients of the cake and the different physiological processes that take place in the body as a piece of cake courses through the gastrointestinal tract.

MATERIALS AND METHODS

Materials required. The following materials are required for this activity: an electric oven, ingredients for the cake, bakeware, and adequate safety equipment.

Activity presentation. This activity was presented to first-year medical students during didactic lectures on the physiology of the gastrointestinal system.

The activity first involved baking two cakes. Although baking the cakes in the lecture hall was preferable, this was not possible due to safety issues. This was therefore done in a small kitchen along the usual pathway to the lecture hall. The baking was started before the lecture, so that as students filed into the classroom, they were met with the waft of a freshly baking chocolate cake.

The ingredients required for the second cake were kept ready in the lecture hall. At the start of the lecture, two volunteers were asked to prepare the batter for the cake. The recipe for the cake was simultaneously projected. Once the batter was ready, this was sent for baking. The first cake was then brought in.

Students were then given a set of questions as a handout. They were asked to find out the answers to these questions as the lectures progressed. Questions were framed to elicit important facts of gastrointestinal physiology, such as the mechanisms that prevent regurgitation of food into the nasopharynx and trachea, enzymes that act on various ingredients of the cake, and the importance of dietary fiber and other minor nutrients present in the cake.

The series of didactic lectures was then delivered, using the theme contributed to the understanding of gastrointestinal physiology. At different points during the series of lectures, the questions that were asked in the initial handout were referred to.

RESULTS

The exercise was well received by the students. Baking the cake created a lot of excitement. The baked cake was distributed at the end of the class and even generated requests for the recipe. Of the 90 students who provided feedback, 72.2% said that the exercise helped them understand the gastrointestinal system better, 14.5% said that it was not effective, and 13.3% did not respond to this particular question.

Students who found this exercise useful used phrases such as “It was fun...” “It made the topic more interesting,” and “...kept us motivated...” to describe their experience.

DISCUSSION

This article describes a simple exercise that can be used to illustrate gastrointestinal physiology. In the setting of a traditional didactic lecture, such an activity can help explain concepts as well as improve student attention.

DISCLOSURES

No conflicts of interest, financial or otherwise, are declared by the author(s).

AUTHOR CONTRIBUTIONS

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