**Famous Ladies**

**Florence Nightingale’s Influence on Civil War Nutrition**

Ann A. Hertzler, PhD, RD, CFCS

During the American Civil War, in 1861, Florence Nightingale’s Directions for Cooking by Troops in Camp and Hospital was published for the Army of Virginia by order of the Surgeon General. The principles emanating from her European experience represent the introduction of nutrition concerns into American military food directives for camp and hospital diet kitchens. Adoption of her recommendations prevented many losses from malnutrition and poor sanitation that occurred in the Civil War.

**Army Camp Cooking Recipes**

The 7 army camp recipes in Nightingale’s manual (Table 1) were designed to be prepared with water or fat in a container over a camp fire or on a camp stove. The first recipe is for coffee, which she advised to be bought as beans to avoid adulteration with chicory and to be served with milk. The value of coffee was that boiling water helped reduce digestive disease and diarrhea. Distilled water, rain water, and spring water were recognized as the purest water sources, but they were rarely available.

The 6 other army recipes were meat based—4 with vegetables, salt, and ground pepper; 1 for salt beef or pork; and 1 for suet dumplings to accompany the meat.

**Hospital Recipes**

The manual also had 15 recipes for army hospital cooking (Table 2) chiefly for use with patients who were suffering from scarlet fever, typhoid, and dysentery. The recipes consisted of meat and chicken broths, alcohol, starchy gruels, and beverages. No recommendations to prevent scurvy were given.

Beef tea, diluted meat juice, and chicken broth were used to feed weak patients, especially those who, after feverish nights, had “dry mouth and nervous swallowing difficulty” so that they could consume solid food later in the day. Nightingale recognized that these broths were not nutritious but were still had some “reparative quality, especially in cases of gastric fever.” “Jelly” (gelatin), which had been previously considered nourishing because of its high nitrogen content, was mystifyingly “innutritious” according to her. It would be many years before the low biologic value of the collagen protein in gelatin was elucidated to explain her observations.

Alcohol was used as an easily ingested single nourishment for “dry mouth” and for calming effects or in mixtures to increase the patient’s tolerance of foods (eg, egg flip made with wine). Foods such as “biscuit jelly” and “sago jelly” were used as vehicles for port, sherry, or Madeira wine. Panada (1/4 wine; 3/4 water, nutmeg, or lemon; grated bread or crackers) was another common recipe for patients.

Although “easy on the throat,” arrowroot pudding was viewed by Nightingale to be overrated. Instead of preparations of arrowroot, sago, and tapioca, she preferred...
flour, oats, groats (grits), and barley. She rated homemade bread, brown bread, or oat cakes as the “most important article of diet” for many patients. A footnote provided 2 
“excellent dietetic articles.” Biscuit Jelly (4 oz. crushed biscuit soaked in 2 quarts cold water, boiled and strained to 1 pint; flavored with sugar, red wine, and cinnamon) and Parched Corn (thin corn meal, ground, well boiled, seasoned with salt, and presented while hot). Puddings made with eggs were considered inappropriate for patients of “negative or bilious temperament.”

Tea/coffee, barley water, lemonade, soda water, and milk were promoted as important “dilutents” for fever, for overcoming “bad tongue,” and for quenching thirst. Real tea-leaf tea (not sloe-leaf tea) and coffee without chicory were valued to help the patient relax, sleep, and heal. Florence Nightingale’s book was written for English soldiers in the 1850s during the Crimean War, and she dwelled on the virtues of tea as an English woman might be expected to do. She noted “there is nothing yet discovered which is a substitute to the English patient for his cup of tea (or to some their cup of coffee); he can take it when he can take nothing else.” She said that the drop of milk in the English patient’s tea was the only real nourishment that many obtained. The only English patients Nightingale found to reject tea were those with typhus.

Fat was valuable in food preparation (frying, making dumplings, greasing the rice pan, and adding flavor to beef tea) and for nourishment. Butter was considered the “lightest” kind of animal fat. Cream was cherished as irreplaceable for feeding in long chronic illnesses. Cheese was regarded as pure and excellent for rehabilitation in chronic illness but viewed as not easily digested by the sick.

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and health and the “certain reparative quality” of beef tea and similar light fare in almost any inflammatory disease, promoted whole grains over starches, and recognized that fruit and vegetables cannot be limited in the diet for a long time without the appearance of scurvy.1 Although James Lind had published his Treatise On Scurvy (1753) and citrus fruit was recognized for protection against scurvy,5 the nutritional contributions of various foods were still not clear.

Lemons were used as a flavoring along with allspice, nutmeg, and cinnamon in gruel. It was only later that the benefits of citrus fruits were distinguished from other foods in preventing scurvy. Vegetables were generally unavailable to the common soldier.

Although procedures were in place for the armies to requisition prescribed foods, the difficulty obtaining and transporting sufficient food supplies to the battlefield and front and the lack of skilled hospital and food service staff made the guidelines almost impossible to follow. During the American Civil War, more men died of disease caused by bad food and contaminated water (typhoid, dysentery, and scarlet fever) than from all other battle losses.4

Table 2. Recipes in “Directions for Cooking in Hospital”

<table>
<thead>
<tr>
<th>Recipe</th>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutton stewed and soup</td>
<td>Meat, plain mixed vegetables, pearl barley or rice, salt, pepper, and flour (serve the meat and soup separate)</td>
</tr>
<tr>
<td>Beef soup</td>
<td>Follow above recipe</td>
</tr>
<tr>
<td>Beef tea</td>
<td>Lean beef size of walnuts, bones, mixed vegetables (onions, celery, turnips, and/or carrots), salt, pepper, butter. Skim off the fat; strain through a sieve and serve.</td>
</tr>
<tr>
<td>Thick beef tea</td>
<td>Beef tea, arrowroot, or gelatin. Mutton and veal will make good tea by proceeding the same as above.</td>
</tr>
<tr>
<td>Essence of beef</td>
<td>Essence of lean beef cut fine and gently heated in porter bottle; seasoned with salt, pepper, and allspice</td>
</tr>
<tr>
<td>Chicken broth</td>
<td>“Fowl,” rice, onion or mixed vegetables, salt, and pepper. A light mutton broth may be made with mutton neck.</td>
</tr>
<tr>
<td>Plain-boiled rice</td>
<td>Rice flavored with nutmeg or cinnamon and sweetened to taste</td>
</tr>
<tr>
<td>Sago jelly (gelatin)</td>
<td>Sago, sugar, lemon peel, ground cinnamon, and salt. Add a little port, sherry, or Madeira wine as the case will admit.</td>
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<tr>
<td>Arrowroot milk</td>
<td>Arrowroot, sugar, lemon peel (or any kind of essence), and milk. When short of milk, use half water and half an ounce of butter.</td>
</tr>
<tr>
<td>Arrowroot water</td>
<td>Arrowroot, sugar, lemon peel, and salt</td>
</tr>
<tr>
<td>Rice water</td>
<td>Rice, sugar, and lemon peel (strain and serve as a beverage)</td>
</tr>
<tr>
<td>Barley water</td>
<td>Pearl barley, white sugar, and lemon (serve strained or with the barley left in)</td>
</tr>
<tr>
<td>Crimean lemonade</td>
<td>White or brown sugar, limejuice, and water</td>
</tr>
<tr>
<td>Citric acid lemonade</td>
<td>Citric acid, cold water, and white sugar</td>
</tr>
<tr>
<td>Toast and water</td>
<td>Toasted crusty bread placed near the fire till a “good brown chocolate,” put in a pitcher and pour boiling water over; when cold, strain (a piece of apple slowly toasted till black added to the above makes a refreshing drink)</td>
</tr>
</tbody>
</table>

Taking Food

In another part of her manual entitled, Taking Food, Florence Nightingale stated that patients were often starved for want of attention and that they lacked ways “to take food.”1(p16) Nightingale believed that caring by the nurse was as important to healing as were food and medicine. It required the nurse's ingenuity and perseverance to attend to patient needs. Nurses were expected to supervise food preparation, provision, meal timing, and feeding often in chronic cases for months and years so that patients were not neglected.1

Nightingale warned nurses not to bring spoiled food (“peccant articles”) to patients, such as milk that was sour, meat or soup that had turned bad, an egg that was rotten, or uncooked vegetables. When food was spoiled, the nurse was expected to “whip up” something else.1 The nurse was also instructed to be neat and to keep the patient neat.1

Discussion

Florence Nightingale’s 1861 diet manual made some important breakthroughs. It emphasized meat in recovery and health and the “certain reparative quality” of beef tea and similar light fare in almost any inflammatory disease, promoted whole grains over starches, and recognized that fruit and vegetables cannot be limited in the diet for a long time without the appearance of scurvy.1 Although James Lind had published his Treatise On Scurvy (1753) and citrus fruit was recognized for protection against scurvy,5 the nutritional contributions of various foods were still not clear. Lemons were used as a flavoring along with allspice, nutmeg, and cinnamon in gruel. It was only later that the benefits of citrus fruits were distinguished from other foods in preventing scurvy. Vegetables were generally unavailable to the common soldier.

Although procedures were in place for the armies to requisition prescribed foods, the difficulty obtaining and transporting sufficient food supplies to the battlefield and front and the lack of skilled hospital and food service staff made the guidelines almost impossible to follow. During the American Civil War, more men died of disease caused by bad food and contaminated water (typhoid, dysentery, and scarlet fever) than from all other battle losses.4
Emphasis on meat and milk for nitrogen and other food groups for carbon evolved into recommendations in the first US Family Food Guide 35 years later in 1916. The guide grouped foods into (1) milk, meat, fish, poultry, eggs, and meat substitutes (protein); (2) breads and other cereal foods (starch and similar carbohydrate); (3) butter and wholesome fats (fat); (4) vegetables and fruits (mineral substances and organic acids); and (5) simple sweets (sugars). During the vitamin era of the 1940s, food group categories became more refined. In the 1970s, the Dietary Guidelines for Americans delineated concerns about calories, fat, sugar, and sodium.5

Florence Nightingale and her colleagues had a powerful influence on the transformation of women’s roles in the home to include the new science of “cookery” in nursing the sick. Recipes and guidelines based on Florence Nightingale’s “Notes on Nursing” were promoted by Mrs Annie Wittenmyer who was influential with the Sanitation Committee for diet kitchen managers with northern troops during the war.6 Nightingale’s philosophy and science of sick room diets was included in family recipe books published by leading American authorities of the time, such as Catherine Beecher2 and in England by Mrs Beeton.3 These recommendations continued to be widely followed after the Civil War. For example, doctors recommended beef tea for ailing Robert E. Lee a few days before his death in 1870.7 After 30 years of teaching about sick room diets, Sarah Tyson Rorer published her classic text, Mrs. Rorer’s Diet for the Sick in 1914.8 By 1917, the American Dietetic Association was founded,9 and in the past century, it has striven to put therapeutic dietetics on a stronger scientific foundation.

Do Batter-Coated Vegetables Count?

In a ruling that is not likely to be greeted with overwhelming joy in all quarters of the fruit and veggie camp, a federal judge in Texas ruled to allow batter-coated French fries to be considered fresh vegetables under the Perishable Agricultural Commodities Act. Regulations under the law help to assure buyers of commodities that they are getting what they ordered, said a spokesman for the USDA’s Agricultural Marketing Service. In the meantime, the Dietary Guidelines Advisory Board is trying to get people to recognize that they need to eat their other veggies to get all the nutritional goodies they need.

Frozen fries are considered fresh by the court, apparently because they don’t meet the standard necessary for them to be listed as processed, and adding batter to the fries does not change the classification. However, the judge did have the good sense to state that the ruling applies to commerce, not nutrition.

Some produce companies plan to appeal, stating that the law was intended to protect growers of fruits and vegetables, especially small farmers, and the ruling misconstrues the intent of the act. Who knows, it may come to a constitutional amendment!

REFERENCES

1. Nightingale F. Directions for Cooking by Troops in Camp and Hospital...with essays on “Taking Food” and “What Food.” Richmond, Va: J.W. Randolph; 1861:1-35.