Quality Assurance: Nectar-, Honey-, and Pudding-Thick Mixtures at CCH

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Problem

In a hospital foodservice setting, it is essential to provide the patients with food that not only has a pleasant taste, but is also safe for each particular patient to consume. Because patients often have differing levels of swallowing abilities, close attention must be paid to the consistency of items we provide them with.

In order to maintain the standard of delivering appetizing food to patients with swallowing dysfunction, utilizing real food is important. In this case, cottage cheese pureed with applesauce is one way Campbell County Health (CCH) caters to varying swallowing abilities while also maintaining nutritional quality and taste. This mixture is often manipulated to become nectar-thick (NT), honey-thick (HT), or pudding-thick (PT).

Although foodservice staff can adjust how much applesauce, cottage cheese, and/or water is added to obtain NT, HT, or PT, past reports have shown that the end product often differs. Some reasons for the inconsistency include different foodservice workers preparing the mixture using a “guess-and-check” method, lack of standard recipes, and a variable amount of time the mixture spends blending.

Inconsistency in mixtures for NT, HT, and PT becomes a safety hazard for patients. If the mixture is not completely smooth and the correct thickness, this puts the patient at risk for aspiration. On the other hand, they may simply not be able to consume it, putting them at risk for inadequate intake. In addition to patient safety, foodservice workers have reported having to remake the mixture when it comes out to the incorrect thickness, therefore wasting time, resources, and money.

Proposed Plan

Process:

In order to improve the quality and consistency of the NT, HT, and PT cottage cheese-applesauce mixture, a standard recipe with exact measurements and directions should be developed and put in place for foodservice staff to utilize. NT is to be easily poured and runs smoothly off of a spoon (1). HT is are slightly less pourable and drizzled from the spoon (1). PT are not pourable, hold their shape, and require a spoon in order to eat (1). Below are the recipes for NT, HT, and PT.

Nectar-Thick Cottage Cheese-Applesauce

Ingredients:

⅓ C small curd 2% cottage cheese
5 Tbsp applesauce
2 Tbsp water

Directions:

1. Place cottage cheese, applesauce, and water into blender.
2. Blend for 15 seconds.
3. Open blender and push down sides.
4. Repeat steps 2 and 3 two more times.
5. Serve in ½ C jar.

Nutritional Analysis (2):

kcal: 93
PRO: 8 g
Fat: 2 g
CHO: 13 g
Sodium: 244 mg
Calcium: 76 mg

Honey-Thick Cottage Cheese-Applesauce

Ingredients:

½ C small curd 2% cottage cheese
6 Tbsp applesauce

Directions:

1. Place cottage cheese and applesauce into blender.
2. Blend for 15 seconds.
3. Open blender and push down sides.
4. Repeat steps 2 and 3 two more times.
5. Serve in ½ C jar.

Nutritional Analysis (2):

kcal: 130
PRO: 12 g
Fat: 3 g
CHO: 16

Sodium: 364 mg
Calcium: 114 mg

Pudding-Thick Cottage Cheese-Applesauce

Ingredients:

½ C + 2 Tbsp small curd 2% cottage cheese
1 Tbsp applesauce

Directions:

1. Place cottage cheese and applesauce into blender.
2. Blend for 15 seconds.
3. Open blender and push down sides.
4. Repeat steps 2 and 3 two more times.
5. Serve in ½ C jar.

Nutritional Analysis (2):

kcal: 122
PRO: 15 g
Fat: 3 g
CHO: 8 g
Sodium: 443 mg
Calcium: 142 mg





Nectar-thick



Honey-thick



Pudding-thick

Benefits and Cost:

One benefit of putting in place these standardized recipes is that patient safety would increase, while risk of inadequate intake and aspiration would decrease. If these recipes are followed, this minimizes the variability that is often seen when different foodservice workers prepare the mixtures.

Another benefit to implementing these recipes is that it would save time, resources, and money. Time would be saved by eliminating the time foodservice staff have to spend remaking a mixture if it does not come out to be the correct thickness on the first try. Resources would therefore be saved when mixtures do not have to be remade. As a result, money in both labor and food would be saved. If one were to assume that there is an average of one NT, one HT, and one PT ordered for one day (breakfast, lunch, and dinner) each week, this amounts to about $247.68 per year. If each time the foodservice worker has to remake the mixture in order to get the right thickness, this expense would be doubled, costing $495.36 per year. Fortunately, with a standard recipe for each thickness, the cost for the cottage cheese-applesauce mixture would likely be cut in half.

Calculations:

Cottage cheese pricing:
1 tub = 12 C = 192 Tbsp
NT (⅓ C)... (12 C/$9.18) = (⅓ C/x) x = 0.255 → $0.26 per ⅓ C
HT (½ C)... (12 C/$9.18) = (½ C/x) x = 0.3825 → $0.38 per ½ C
PT (½ C + 2 Tbsp)... $0.38 per ½ C + [(192 Tbsp/$9.18) = (2 Tbsp/x)
x=0.095625 → $0.10 per 2 Tbsp] = $0.48 per ½ C + 2 Tbsp

Applesauce pricing:
1 mini applesauce = ½ C = 8 Tbsp
NT (5 Tbsp)... (8 Tbsp/$0.40) = (5 Tbsp/x) x = $0.25 per 5 Tbsp
HT (6 Tbsp)... (8 Tbsp/$0.40) = (6 Tbsp/x) x = $0.30 per 6 Tbsp
PT (1 Tbsp)... (8 Tbsp/$0.40) = (1 Tbsp/x) x = $0.05 per 1 Tbsp

Total cost per NT: $0.26 + $0.25 = **$0.51**
Total cost per HT: $0.38 + $0.30 = **$0.68**
Total cost per PT: $0.48 + $0.05 = **$0.53**

NT: 3 meals x 4 = 12 NT/month
12 NT/month x 12 months = 144 NT/year
144 NT x $0.51 = **$73.44/year**

HT: 3 meals x 4 = 12 HT/month
12 HT/month x 12 months = 144 HT/year
144 HT x $0.68 = **$97.92/year**

PT: 3 meals x 4 = 12 PT/month
12 PT/month x 12 months = 144 PT/year

144 PT x $0.53 = **$76.32/year**

Total cost per year: $73.44 + $97.92 + $76.32 = **$247.68**
Total cost per year if remakes are needed: $247.68 x 2 = **$495.36**

Stakeholders:

Those that will be involved in the implementation of the standardized recipes include the nutritional services supervisor, the foodservice staff preparing the mixtures, and the RDN to oversee correct thicknesses.

Training or New Equipment Needs:

Foodservice staff will need to be able to follow directions and correct measurements if this plan were to be implemented. As long as they stick to the recipe, no new training would be needed.

In addition, no new equipment would need to be purchased, as they already possess the resources needed.

Desired Outcomes

The outcome desired from implementing a standardized recipe for NT, HT, and PT cottage cheese-applesauce mixtures is that each end product made will be consistent and correct the *first* time it is prepared. This will ensure that each patient consuming the mixture will have a much lower risk of aspiration and be able to eat it.

Another outcome desired is that because the foodservice staff will only have to prepare it once rather than multiple times, this will save time, resources, and money.

COTTAGE CHEESE & APPLESAUCE MIXTURE



NECTAR-THICK

Ingredients

- *⅓ C small curd 2% cottage cheese*
- *5 Tbsp applesauce*
- *2 Tbsp water*

Directions

1. *Place cottage cheese, applesauce, and water into blender.*
2. *Blend for 15 seconds.*
3. *Open blender and push down sides.*
4. *Repeat steps 2 and 3 two more times.*
5. *Serve in ½ C jar.*

HONEY-THICK

Ingredients

- *½ C small curd 2% cottage cheese*
- *6 Tbsp applesauce*

Directions

1. *Place cottage cheese and applesauce into blender.*
2. *Blend for 15 seconds.*
3. *Open blender and push down sides.*
4. *Repeat steps 2 and 3 two more times.*
5. *Serve in ½ C jar.*



PUDDING-THICK

Ingredients

- *½ C + 2 Tbsp small curd 2% cottage cheese*
- *6 Tbsp applesauce*

Directions

1. *Place cottage cheese and applesauce into blender.*
2. *Blend for 15 seconds.*
3. *Open blender and push down sides.*
4. *Repeat steps 2 and 3 two more times.*
5. *Serve in ½ C jar.*

References

1. Nelms M, Sucher KS, Lacey K. *Nutrition Therapy and Pathophysiology*. 3rd ed. Boston, MA: Cengage; 2016.
2. FoodData Central. U.S. Department of Agriculture. https://fdc.nal.usda.gov/index.html. Accessed December 16, 2019.