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Nutritional Strategies For Nurses In A Fast Paced Occupation

Zachary Christman

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Abstract

The foundation of the medical system are the nurses and certified medical assistants. Their personal health condition affects how well diseases and other medical conditions are handled. This article will begin with an overview of the eating behavior of nurses. Three different interventions which have been shown effective in a fast paced workplace are presented in order to improve the health of nurses and certified medical assistants. The first intervention is organizational changes that would increase the amount of time nursing staff have to eat. The second is the use of a messenger bag delivery system to provide needed food, water, and educational materials. The third is the use of packaged ready-to-eat meals to reduce preparation time and increase the availability of nutritious food.

Introduction

The eating habits of nurses may be best described by this quote from a hospital nurse in New Jersey "I mean, eating is done on the fly. You know, walk in, throw something in your mouth and chewing while washing your hands and then walking to see another patient." Typically nurses eat food that is fast to prepare and eat. 85% of respondents of the survey said taking a break affected their eating habits and 75% said that the capability of taking a break lead to better eating habits. Although 85% of respondents said their cafeteria had healthy options, 60% said they did not have the time to go and get something to eat. The high consumption of sugar and fat was primarily attributed to the easy access of these items. Food items such as brownies, cookies, doughnuts and cake are reported to be frequently

available and are the "go to" foods especially during stressful shifts.³ Some operational interventions that are proposed to help:

- A buddy system when taking care of patients. For example, each patient is assigned to 2 different nurses so short breaks can be covered and the department can operate more collaboratively.³
- Create a policy that any nurse can respond to a call button based on how far away the patient is. If no nurse is available, a higher ranked medical professional would provide coverage for short periods of time.³
- Start a float nurse program: A medical professional that can move about a department and help out anywhere they are needed, but is not assigned to any specific patient. One possibility is medical students earning their service learning hours.³

Messenger Bag Intervention

Food is not permitted at nursing stations due to concerns of contamination and food borne illness. Four nurses (20% of surveyed population) said the distance to the break room was a barrier to eating. Night shift workers explained that due to the low number of staff available to provide medical coverage, the time to eat was often not permitted. Even though officially it was not allowed, eating at places like their desk was considered necessary and frequently overlooked. When options were available such as time, food choices and medical coverage so they could hydrate and consume necessary nutrients, nurses reported they performed better.³

One intervention that has been successful is bringing food to the workers. During scheduled periods of the day a person wearing the messenger bag would walk around the unit and distribute food supplies for medical staff. The individual responsible for the messenger bag is a member of the employee wellness team or a nursing student. The end goal was to improve the nutrition and health knowledge of the medical staff. The supplies contained packaged food that was highly nutritious and could be eaten quickly such as meal replacement bars. Other materials that the delivery person would carry are: bottles of water, coupons for fruit and muffins at the cafeteria, flavor mixes, 1 week membership cards to a fitness center, exercise pamphlets and laminated preventative health guideline sheets.⁴

To reinforce this project the medical staff were given a survey to better understand the wellness needs of the unit. Then programs targeted to those areas were developed and implemented. To increase participation and provide mutual support, a recruitment program was setup where if a member of the medical staff encouraged another member to sign up for one of the health programs they would both get insulated lunch bags. Also, for each completed health program the employee signed up for they got a entry into a monthly lottery of a \$50 pre-paid gift card. Labels on food packaging allowed people to quickly distinguish between healthy food and junk food. Signs also promoted nutrition and health in locations appropriate to that behavior. ⁴

The program paid itself off with decreased absence from work; this was determined to have a value of \$11,409.17. The Messenger Bag Intervention with health programs cost the healthcare unit \$2,800.⁴

65% of respondents said the program had a positive impact on their unit as a whole. ⁴

45% said that the program improved their work productivity.⁴

Pre-made Ready To Eat Meal Packages

This intervention focused on supplying medical staff with a pre-made ready to eat meal packages. The packages were designed to be shelf stable and able to be stored in various locations such as the breakroom. The concept was to make nutritious food that was easily available and reduce the amount of time needed for meal preparation. Several stages needed to be done before implementation.¹

- Communicate to the medical staff what was happening and why before the program began.¹
- Use multiple forms of communication in order to reach the medical staff effectively such as intranet, flyers, internal and external newsletters, e-mail communication, and media.¹
- Obtain the approval and endorsement from the senior staff such as human resources.¹
- Identify key personnel, for example: nurses, staff, and hospital leadership needed to promote the change.¹

- Engage the cafeteria workers early in the development process because they will have a large participation in this program. The cafeteria workers also needed to be prepared for any feedback they may receive.¹
- Set up an e-mail and suggestion box to get comments on the design of the program.¹
- Organize opportunities for employees to engage with the program after it had been implemented.¹
- Establish a method to determine how well the program is running and track progress.¹

The medical staff that had signed up for the program had the option to enter the packaged meal program or the educational sessions on nutrition.²

The Packaged Meal Group Procedure

- Participants here were placed on a 250 kilocalorie per meal diet plan. The amount of calories per day was determined by a 25 kilocalorie per kilogram of body weight. For obese participants 22 kilocalorie per kilogram of body weight.²
- The participants were instructed to eat two packages a day and have a third meal of whatever they choose.²
- 30 grams of low fat cereal, Ultra High Temperature pasteurization (UHT) personal size bottles of milk and either a fruit or vegetable were included in the packages.²
- The diet included 60 to 65% of energy consumed from carbohydrates, 12 to 15% from protein, and 20 to 25% from fat.²
- Individualized dietary advice was provided to each participant such as what to eat for snacks and what to have for a nutritious third meal.²
- Participants were given a week of packaged meals at a time, and two weeks of packaged meals were given out.²
- Participants were asked to fill out a meal log and when did they consume their packaged meals.

The Educational Session Group Procedure

- Prescribed dietary advice ²
- Handouts with diet recommendations.²
- Advice was given on portion size, meal frequency and food exchanges.²
- Each participant filled out a meal log.²

The results from this intervention can be read in Table 1.

TABLE 1.
Biometric data before and after intervention.

Parameter		Intervention group (N=56)	Control group (N=54)	<i>p</i> value [§]
Weight (kg)	Day 1	70.4±8.1	70.8±7.8	0.75
	Day 14	69.2±8.1	70.2±7.8	0.53
	Change	-1.2±0.9	-0.7±0.8	<0.01 [†]
BMI (kg/m ³)	Day 1	29.0±2.3	29.2±2.7	0.66
	Day 14	28.5±2.4	28.9±2.7	0.39
	Change	-0.5±0.4	-0.3±0.3	<0.01 [†]
Waist circumference (cm) [‡]	Day 1	84.9±5.9	84.5±7.3	0.77
	Day 14	82.6±5.7	83.5±7.3	0.45
	Change	-2.3±1.2	-1.0±0.9	<0.001 [†]
Abdominal waist circumference (cm) [‡]	Day 1	94.9±7.5	95.7±7.5	0.58
	Day 14	92.7±7.5	94.9±7.5	0.13
	Change	-2.2±1.3	-0.8±0.8	<0.001 [†]
Hip circumference (cm) [‡]	Day 1	105.0±6.8	106.8±6.1	0.16
	Day 14	103.9±6.8	106.4±6.1	<0.05 [†]
	Change	-1.1±0.8	-0.4±0.4	<0.001 [†]

BMI: body mass index.
[†]All values are Mean±SD.

Packaged Meal Results

- Reduction in total fat reduced from 27.5% to 20.5%²
- Reduction in sodium intake from 126% of recommended daily intake to 63% of recommended intake²
- Vitamin B6 increased by 20% from 65% to 85%²
- Fiber increased by 3% from 22% to 25%²
- Cereal contained 25% sugar by weight this translates into a 10% increase in sugar consumption daily²

Educational Session Results

- Reduction in total fat reduced from 27.5% to 25.2%²
- Sodium level remained the same²
- Decrease of vitamin B6 by 15% from 70% to 55%²
- Fiber decreased by 1.4% from 21% to 19.6%²

Summary

The purpose of this article is to highlight nutritional strategies for health improvement that can be carried out in a busy workplace. The first approach is to organize a medical department so that nurses and certified medical assistants have enough time to eat a full meal without interruption. This approach relies upon shared responsibility, improved logistics and potentially telemedicine to increase the capabilities of the medical staff. The second approach is to use a messenger bag for delivery of water, food and educational materials. This approach was well received with 65% of participants saying it had a positive impact on their unit and 45% said it improved workplace productivity. The third approach was to supply nursing staff with packaged ready to eat meals. The packaged meals reduced both weight and waist circumference. The largest gain from the packaged meal program was the reduction of unhealthy salt and fat consumption. The reduction was higher than what was achieved by education alone.

Reference

1. Eneli, Ihuoma U., et al. "Instituting a sugar-sweetened beverage ban: experience from a children's hospital." *American journal of public health* 104.10 (2014): 1822-1825.
2. Kuriyan, Rebecca, et al. "Portion controlled ready-to-eat meal replacement is associated with short term weight loss: a randomised controlled trial." *Asia Pacific journal of clinical nutrition* 26.6 (2017): 1055.
3. Monaghan, Tina, et al. "Factors influencing the eating practices of hospital nurses during their shifts." *Workplace health & safety* 66.7 (2018): 331-342.
4. Palumbo, Mary Val, Evelyn A. Sikorski, and Barbara C. Liberty. "Exploring the cost-effectiveness of unit-based health promotion activities for nurses." *Workplace health & safety* 61.12 (2013): 514-520.