Nurses Living Fit™ (NLF) Obesity Research Program

Presented by:
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Session Objectives

• Become familiar with implementation of the hospital based Nurses Living Fit™ intervention and program measures
• Describe the decrease in body mass index and waist circumferences for study intervention group participants
Background

• U.S. medical costs increasing across payers (Medicare, Medicaid, and private insurers) based upon inpatient, non-inpatient, and prescription drug spending
  – 1998: $ 78.5 billion per year
  – 2008: $147 billion per year
• ~65% of Americans are estimated to be overweight
  – All 50 states: >15% of adults are obese
  – 9 states: >30% of adults are obese
Background (continued)

• Evidence-based programs are needed to educate nurses on balancing exercise and nutrition to achieve and maintain normal weight
  – Healthy eating and active living
• The hospital-based NLF intervention, was developed and researched by nurses to evaluate its effect on Body Mass Index (BMI) in nurse subject participants
Study

• **Title:** Prospective Evaluation of the Effect of the Nurses Living Fit™ Intervention versus No Intervention on Body Mass Index of Nurses

• **Hypothesis:** NLF intervention participants would experience a significantly greater mean BMI reduction than the contrast group
Design / Setting

• Institutional Review Board approval received

• Design
  – Prospective, quasi-experimental, multi-center study evaluating the change in BMI between Baseline and Week 12 in the NLF and contrast nurse group convenience samples

• Setting
  – 7 suburban and rural community hospitals in Virginia, Maryland and South Carolina
Participants

• Self selected convenience samples
• Target enrollment
  – 126 nurses
  – Able to be physically active
  – Provision of signed informed consent
Methods

• Both groups
  – Pre / post evaluations
  – BMI and waist measures at Baseline, Week 12 and Week 24

• NLF group
  – Weeks 1-12, intervention
  – Weeks 13-24, no intervention

• Contrast group
  – No intervention
Methods: NLF group

• Weeks 1-12: Once weekly one hour exercise sessions: 12 total sessions
  – Focus: Cardiovascular health, strength training, stretching, and injury prevention
• Month 1, 2, 3, 4: Once monthly one hour yoga sessions: 4 total sessions
  – Focus: Physical postures, focused breath work, and meditation
• Month 1, 2, 3, 4: Once monthly one hour nutrition sessions: 4 total sessions
  – Developed and presented by Registered Dietitians
• Weeks 1-12: Additional principles for healthy lifestyle reviewed at each session
Additional Principles for Healthy Lifestyle

– 15,000 steps per day [pedometer]
– Yoga once per week at a minimum
– Limit fast food meals to two per week
– Drink recommended amount of water per day
  • Don’t mistake being thirsty for hunger
– Get 8 hours of sleep per night
  • Don’t mistake being tired for hunger
Methods: NLF group
(continued)

- Daily diaries during weeks 1, 4, 8, and 12 during intervention period and during Week 24 (follow-up)
  - Pedometer steps
    - Pedometers provided to NLF participants
  - Exercise time
  - Yoga time
    - Yoga DVD and CD provided to NLF participants
  - Number of food group servings and fast food restaurant meals
  - Ounces of water consumed per day
    - Water bottles provided to NLF participants
  - Hours of sleep per night

- Participant evaluations
  - NLF Program Evaluation
  - Evaluation form
Nutrition Sessions

• Week 1: Food guide pyramid & serving sizes and water intake
• Week 4: Healthy choices/portion distortion
• Week 8: Cooking methods and fast healthy options for breakfast, lunch, dinner, and snacks
• Week 12: Eating out and summary review
My Plate (June 2011)
Latest update to USDA Food Guidance System

- Food Guide Pyramid
- MyPyramid
- MyPlate: based on 2010 Dietary Guidelines for Americans
  - Illustrates the five food groups using a familiar mealtime visual, a place setting
  - Colors emphasize recommendation of variety
  - Interactive website w/ tips, resources, tools
MyPlate Main Messages

- Balancing Calories
- Foods to Increase
- Foods to Reduce
Calories – and the Energy Balance

- How much energy is in food
  • Just like a car needs gas to run we need energy in our bodies to function.

- Energy in versus energy out
  • What will happen if we put more energy in the body than we let out?
    - Weight gain
  • What will happen if we put less energy in the body than we let out?
    - Weight loss
  • What will happen if we put the same amount of energy in the body that we let out?
    - Maintain weight
PORTION DISTORTION

Do you know how portions have changed over the last 20 years??
A bagel 20 years ago was 3 inches in diameter and had 140 calories.

How many calories do you think are in today's bagel?
Bagel

20 Years Ago
3-inch diameter
140 calories

Today’s
350 Calories

Calorie Difference: 210 calories
Maintaining a Healthy Weight is a Balancing Act
Calories In = Calories Out

How long will you have to rake leaves to burn the extra 210 calories?
Calories in = Calories out

You would have to rake leaves for **50 minutes** to burn 210 calories.
How many calories are in today’s Cheeseburger?
CHEESEBURGER

20 Years Ago

333 calories

Today

590 calories

Calorie Difference: 257 calories
Maintaining a Healthy Weight is a Balancing Act

**Calories In = Calories Out**

How long will you have lift weights to burn the extra 257 calories?
Calories In = Calories Out

If you lifted weights for about 1.5 hours you will burn approximately 257 calories.
FRENCH FRIES

20 Years Ago

210 calories

Today

How many calories are in today’s portion of fries?
FRENCH FRIES

20 Years Ago

210 calories

Today

610 calories

Calorie Difference: 400 calories
Maintaining a Healthy Weight is a Balancing Act

**Calories In = Calories Out**

How long will you have to leisure walk to burn the extra 400 calories?

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Calories In = Calories Out

If you went for a 1 hour and 10 minute walk you would burn about 400 calories.
POPCORN

20 Years Ago

270 calories
5 cups

Today

How many calories are in today’s large popcorn?

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POPCORN

20 Years Ago

270 calories
5 cups

Today

630 calories
11 cups

Calorie Difference: 360 calories

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Maintaining a Healthy Weight is a Balancing Act

Calories In = Calories Out

How long will you have to do water aerobics to burn the extra 360 calories?
Calories In = Calories Out

If you do water aerobics for about 1.5 hours you will burn approximately 360 calories.
SODA

20 Years Ago

85 calories
6.5 ounces

Today

How many calories are in today’s portion?

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SODA

20 Years Ago

- 85 calories
- 6.5 ounces

Today

- 250 calorie
- 20 ounces

Calorie Difference: 165 calories

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Maintaining a Healthy Weight is a Balancing Act

Calories In = Calories Out

How long will you have to garden to burn the extra 165 calories?
Calories In = Calories Out

If you did gardening for 35 minutes you would burn about 165 calories.
DAMAGE

• TOTAL EXTRA CALORIES
  – ?

• TOTAL EXTRA TIME
  – ?
Ideas for Fast Healthy Breakfasts

Breakfast at home
• Casseroles
• Cold cereal with fruit
• Oatmeal with fruit
• Yogurt, ¼ sliced banana, berries, salt free almonds & toasted flaxseed

Breakfast in the car
• Breakfast bars
• Peanut butter on an English muffin w/banana
• Breakfast Burrito
• Hard boiled eggs
• Waffle with nut butter

Breakfast out
• Egg substitute
• Veggie omelet

Your ideas?
Ideas for Fast Healthy Lunches

Brown Bags
- Pita sandwich w/veggies separate
- Stuffed potato (ingredients separate)
- Wraps: Chicken, lean beef

Frozen Meals or Shelf Stable
- Healthy Choice
- Weight Watchers or Lean Cuisine (Watch the sodium)

Quick choices
- Small hamburger (No Sauce or Cheese)
- Chef Salad (Watch the dressing, No fried meats!)
- Small Sub sandwich (Beware of sauces, mayo, cheese)

Your ideas?
Ideas for Fast Healthy Dinners

• Crock pot recipes
• Frozen Casseroles
• Make sauces ahead of time and freeze to put on meats/vegetables
• Frozen individual portions of meat
• Have side dish options on hand for quick prep
  • Pre prepped salads
  • Frozen Veggies to Steam
  • Canned Cut fruit or fresh fruit
  • Whole grain rolls

Your ideas?
Snacks On the Go

• 100 calorie snacks
  • Dried fruits
  • Fresh Fruit
  • Yogurt
  • Pretzels
  • Dry Cereal: Cheerios!

• Prepackaging your own
  • Measure, and portion into snack bags

• Convenience Store snacks
  • Animal Crackers
  • Baked Chips
  • Popsicle

Your Suggestions?
Make Smart Choices

Less Healthy
- Quarter Pounder
- Big Mac
- Crispy Chicken Sandwich

Healthier
- Hamburger
- Grilled Chicken Sandwich w/o mayo
- Bacon Ranch Salad w/ or w/o grilled chicken
- California Cobb Salad w/ or w/o grilled chicken
- Low Fat Balsamic or Low Fat Italian
Make Smart Choices

- **Outback**
  - Go grilled
  - Skip the extra toppings
  - Limit yourself to one serving bread/butter
  - Split your entree

- Alice Springs Chicken w/ Aussie Fries = 1600 calories
- Grilled Chicken on the Barbie w/ fresh steamed veggies (no butter) = 383 calories
Make Smart Choices

• **Starbucks**
  – Go skinny
  – Skip the whip
  – Choose sugar free for syrups
  – Keep it to grande or less

  • Grande White Chocolate Mocha = **400 calories**
  • Grande Skim Café Latte = **130 calories**
    – A great afternoon snack
    – Good calcium & protein from milk
Results

• Sample: 217 nurses enrolled (NLF=108; Contrast=109)
  – Female (NLF=98%; Contrast=94%)
  – Caucasian (NLF=80%; Contrast=88%)
  – Average age (NLF=48; Contrast=45)
  – Average years employed as nurse (NLF=20; Contrast=19)
  – BMI: (NLF=30.5 average BMI, obese; Contrast=27.6 average BMI, overweight) (p <0.001) [BMI Categories: underweight=<18.5; normal=18.5-24.9; overweight=25.0-25.9; obese=30.0-39.9; morbidly obese=\geq40]
Results (continued)

• Greater mean reductions for NLF group:

<table>
<thead>
<tr>
<th></th>
<th>NLF</th>
<th>Contrast</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI*</td>
<td>-0.49</td>
<td>-0.18</td>
</tr>
<tr>
<td>Waist Circumference**</td>
<td>-0.90&quot;</td>
<td>-0.09&quot;</td>
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* p<0.03  
** p<0.001
Results (continued)

• Significant decrease in BMI and waist circumference not sustained during non-intervention period (Weeks 13 and 24)
Results (continued)

• Overall recommendation of NLF program per the NLF Program Evaluation:
  – 93% of the NLF participants recommended overall that the NLF program should be provided to other nurses (94.9%) and to health care professionals (92.3%)
Results (continued)

• Overall ranking* of helpfulness of the NLF program = 3.5
  – Being physically active (3.7)
  – Exercising (3.6)
  – Drinking recommended water amount (3.5)
  – Having energy (3.4)
  – Taking better care of self (3.4),
  – Eating a balanced diet (3.4)
  – Smaller portion sizes (3.3)
  – Living a healthier lifestyle (3.3)
  – Feeling balanced in life (3.1)
  – Getting adequate sleep (3.0)
  – Facilitating family to live a healthier lifestyle (3.0)
  – Providing better care for family (2.9)
  – Providing better education to patients on healthy lifestyle (2.9)
  – Yoga (2.8)
  – Providing better care for patients (2.7)

*4-point scale: 1=Did not help; 2=Neither helped nor hurt; 3=Helped a little; 4=Helped a lot
Conclusions

• NLF group demonstrated statistically significant greater mean reduction in BMI and waist circumference than Contrast group between Baseline and Week 12

• Continue to offer program to sustain effect
Implications for Nursing Practice

• Hospitals can provide an evidence-based program like NLF (adopted from Kids Living Fit™, Agency for Healthcare Research and Quality Innovation of Excellence recipient)

• Ideally, nurses can utilize these principles to achieve or maintain normal weight and to better educate their patients, families, and community, on healthy lifestyle principles targeting normal weight
Implications for Nursing Practice (continued)

• Living Fit has been implemented for health care professionals
  – Exercise classes
  – Yoga classes
  – Zumba classes
  – Nutrition lectures
  – Healthy Lifestyle Changes: A Personal Journey and its Public Health Implications
  – Annual walk/run events
  – Women’s Community Living Fit Conference
Kids Living Fit™ References


Nurses Living Fit™ Dissemination of Findings


Nurses Living Fit™ Dissemination of Findings (continued)


- Abstracts
Summary

- Components needed to offer a program to decrease overweight in adults
  - Exercise
  - Yoga
  - Nutrition
  - Healthy principles
    - Take 15,000 steps per day
    - Yoga once per week at a minimum
    - Limit fast food meals to two per week
    - Drink recommended amount of water per day
      - Do not mistake thirst for hunger
    - 8 hours of sleep her night
      - Do not mistake being tired for hunger
- Identify required balances between exercise and nutrition
  - Calories in = calories out
  - Achieve and maintain normal weight
NLF Research Program
Acknowledgements / Study Team

• Inova Loudoun Hospital, Leesburg, Virginia
  – Investigator: Karen Gabel Speroni, BSN, MHSA, PhD, RN
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  – Sub-Investigator: Cynthia Earley, BSN, RN
  – Data Support: Dorothy Seibert, MSN, RN

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  www.kidslivingfit.com
  – Pana DeGooyer
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It's QUESTION TIME!!