



WELCOME

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- Please remember to turn all electronic devices to silent mode
- If you are attending with a young child please use discretion, we ask that you try not to disrupt another's learning experience





Community-based Participatory Research Obesity Prevention



Bonnie Gance-Cleveland, RN, PNP PhD
 Wendy Wardbegnoche, PhD
 April 14, 2008
 3:00-4:15pm

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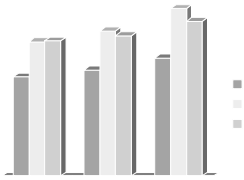
Session Objectives

- Describe the purpose of the study.
- Describe the methodology (CBPR) used in the presented research.
- Identify the conclusions of the presented study and the clinical application of the research.





Prevalence of Overweight & Obese Children and Adolescents

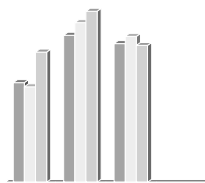


Ogden, C et al. (2006). *JAMA*, 295(13), 1549-1555.





Ethnic Disparity: Overweight & Obese 2003-2004



Ogden, C et al. (2006). *JAMA*, 295(13), 1549-1555.





Scope of the Problem



- 29% of US children have daily PE
- 50% of 12-21 year olds have no regular physical activity

Foster, et al., 2003; Ogden, et al., 2002





Health Risks of Obesity

- Pulmonary
 - Sleep disorders
 - Asthma
 - Obesity-linked hypoventilations
- Orthopedic
 - Slipped capital epiphysis
 - Tibia vara (Blount's disease)
 - Tibial torsion
 - Flat feet
 - Ankle sprain
 - Fractures
- Neurologic
 - Pseudotumor cerebri





Health Risks of Obesity

- Gastrointestinal
 - Cholelithiasis
 - Non-alcoholic fatty liver disease
 - Gastro-esophageal reflux
- Endocrine
 - Insulin resistance/Type II Diabetes
 - Acanthosis nigricans
 - Menstrual abnormalities
 - Polycystic ovary syndrome
 - Hypercoricism
- Cardiovascular
 - Hypertension
 - Dyslipidemia
 - Fatty deposits
 - Left ventricular hypertrophy
- Other
 - Systemic inflammation





Health Risks: Psychosocial



- Overweight children and their parents rate the quality of life as similar to pediatric cancer patients.

Schwimmer, Burwinkle, & Varni, 2003



Significance of Problem

- 80% of obese adolescents will become obese adults





Leading Causes of Death in US

Cause of Death rate/100,000	Death
Heart disease	258.2
Cancer	200.9
Cerebrovascular disease	60.9

Minino, Arias, Kochanek, Murphy, & Smith 2002





Economic Consequences

- Obesity ↑ 30% in last 20 years
- Medical expenses for obesity = 9.1% of US medical expenditure
- Costs of overweight in United States
 - \$78.5 billion in 1998
 - \$92.6 billion in 2002





Historical Perspectives in Arkansas

- 1:5 adults are uninsured
- 77% of adult population overweight
- Annual request to legislature for increase funds for indigent healthcare





Arkansas Act 1220

- Annual body mass index
- Report home to parents
- Local health advisory boards
- Reporting income from vending machines
- Nutrition & physical activity goals in school plans





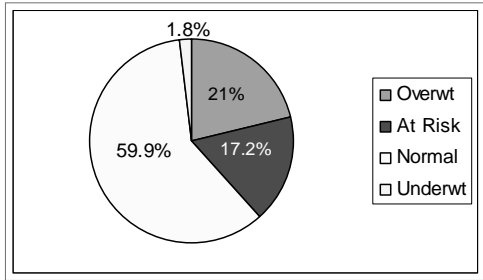
Arkansas Act 1220: BMI Initiative

- Obtained equipment
- Developed & piloted measurement protocol
- Trained the trainers 415 school nurses
- Established data collection & management system
- Obtained BMIs and reported
 - Parents, schools, districts





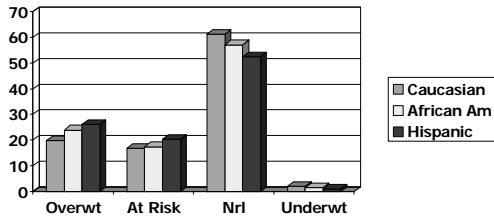
Arkansas Youth 2003-2004 Findings





Ethnic Disparities in Arkansas Children

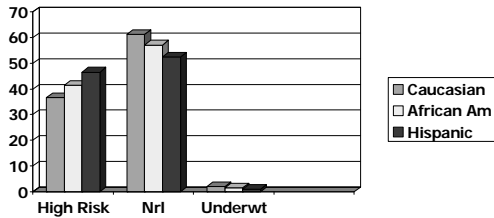
2003-2004 BMI





Ethnic Disparities in Arkansas Children

2003-2004 BMI





Purpose

- The purpose of the study was to evaluate the outcomes of a school-based obesity prevention curriculum.





Method

- Community-based participatory methodology
 - Increases the cultural sensitivity of intervention
 - Increasing efficacy of intervention
 - Enhance community acceptance
 - Promotes sustainability
 - Enhances recruitment and retention





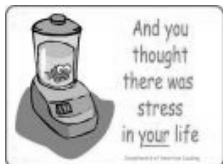
Three Phases

- Pilot tested the curriculum
- Conducted focus groups with teachers, parents & students who participated in the curriculum
- Revised the curriculum based upon the focus group findings and retested the curriculum





Intervention: Obesity Prevention Curriculum



- Nutrition
- Exercise
- Coping Skills Training



Grey, Gustafson, Galasso, 2004



Procedure

- 16 classes
- Conducted by BSN students
- Small group format
 - Sat in circles on gym floor
 - Group discussions
- Nutrition content
- Physical activity
- Coping Skills training
 - Goal setting
 - Behavior change





Class Activities: Nutrition

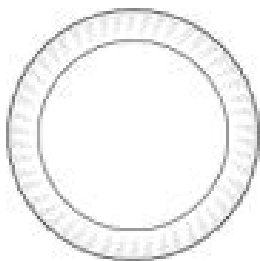
- Food Pyramid- healthy food choices





Class Activities: Nutrition

- Paper plate to draw food choices and serving sizes
- Students brought favorite healthy recipes





Class Activities: Physical Activity

- Followed teaching session with a physical activity
 - Punch balls
 - Limbo
 - Relays
 - Basketball
 - Dance

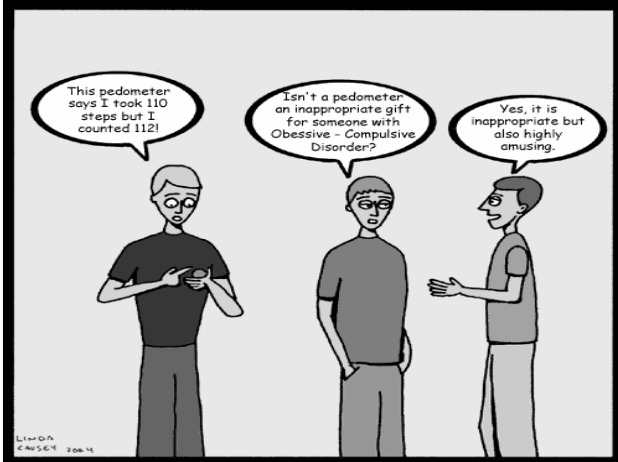




Class Activities: Physical Activity

- Self monitoring amount of physical activity that each student gets
 - Pedometers
 - Logs of number of steps





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Class Activities: Coping Skills Behavior Chain

Follow the Chain of Behaviors
Identify stressors that may lead to overeating
Identify healthier ways to cope with stressors

NAPNAP 2008

Coping Skills Training

- Learning new skills takes practice
- Planning ahead ie special event
- Worksheets on positive ways to talk with each other
- Healthy choices when dining out



Outcome Measures

- CATCH
 - Nutrition Knowledge
 - Nutrition Behaviors
- Social Support for Eating and Exercise Survey
 - Family involvement in healthy behaviors
 - Peer involvement in healthy behaviors
- Biological
 - BMI
 - Blood pressure





Subjects

- N = 258 students received curriculum
 - 88% of the sample (n = 226) obtained parental consent/ student assent
- 214 students completed pre- and post-testing





Healthy Eating Data

<i>Scale/Subscale</i>	<i>Mean pre-test</i>	<i>Mean post-test</i>	<i>t-score</i>	<i>p-value</i>
CATCH A	13.13	15.90	6.27	<0.0001
CATCH C	25.61	26.24	0.51	0.6088
Fam Encour Healthy	12.49	13.75	2.88	0.0044
Fam Discour Unhealthy	9.76	11.17	3.55	0.0005
Peer Encour Healthy	7.61	10.42	7.68	0.0001
Peer Discour Healthy	9.67	10.33	1.47	0.1443





Physical Activity Data

<i>Scale/Subscale</i>	<i>Mean pre-test</i>	<i>Mean post-test</i>	<i>t-score</i>	<i>p-value</i>
Family Participate	24.72	27.01	2.59	0.0104
Peer Participate	19.28	21.58	3.20	0.0016
Family Reward Student	5.15	6.43	4.95	<0.0001





Body Mass Index

<i>BMI Category</i>	<i>% Pre-test</i>	<i>% Post-test</i>
Normal	57.85	58.25
At-Risk	19.28	19.42
Overweight	22.87	22.33





Blood Pressure

	<i>Pre-test mean</i>	<i>Post-test mean</i>	<i>t score</i>	<i>p-value</i>
Total (n=214)				
Systolic	105.60	105.74	0.365	0.7157
Diastolic	67.27	67.24	0.018	0.9856
>90thtile (n = 33)				
Systolic	111.86	109.45	-1.16	0.2529
Diastolic	79.72	69.29	-6.24	<0.0001





Statewide Results

	Year 1	Year 2	Year 3	Year 4
Obese	20.9%	20.8%	20.5%	20.6%
Overwt	17.2%	17.2%	17.1%	17.2%
Nrl wt	60.1%	60.1%	60.5%	60.4%
Underwt	1.8%	1.9%	1.9%	1.8%
Total	347,753	368,871	369,416	366,801





Summary

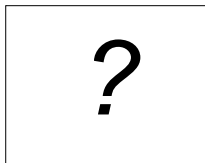
Session Take-Aways/Deliverables

1. CBPR enhanced the study
2. Curriculum looks promising
3. Adolescents want adult role models for healthy eating & activity





Questions (last 5 minutes of session)







Thank you

We remind all participants to visit CE Pavilion to complete your session evaluations and record your Continuing Education contact hours.

NAPNAP hopes you have an enjoyable conference experience, and enjoy your stay in Nashville, TN.

Mark your calendars! Next year's conference will take place in San Diego, CA on March 19 - 22, 2009.