Activity Practices among Blacks, Hispanics, and Filipinos: Implications for Prevention and Control of overweight and Obesity

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Disclosure

We declare no conflicts of interest that may bias the study findings.

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Overview of Obesity in the U.S.A.

- 65% of the US population is overweight or obese (CDC, 2006).

- Obesity affects 60 million people in the USA.
  - 9 million being seriously obese
  - 127 million being overweight
    (Dhoble, Patel, Odoms-Young, 2008).

- Overweight children has more than doubled since 1980 and overweight adolescents have more than tripled (McHugh, 2006).

- Hispanics = 21% more obese than non Hispanic whites
  (Pan, Galuska, Sherry, Hunter, Rutledge, Dietz & Balluz, 2009).

- Non Hispanic blacks = 51% more obese than non Hispanic whites

- As with the majority of health issues, ethnic minority populations are at a higher risk of developing obesity as both children and adults (CDC, 2006)
• Hispanic children had significantly higher levels (31%) of obesity than White, Black, and Asian ethnic groups (Thorpe et al., 2004; OBA, 2005).

• Overweight children are poised to become overweight adults.

• Prevalence of obesity among youths or adults in the U.S.A. did not change significantly between 2003-2004 and 2011-2012 (Journal of the American Medical Association).

• Low income women and their children are at higher risk for overweight and obesity than higher income groups.
Obesity in Filipinos

- Increasing prevalence of obesity during the last few decades observed in the Philippines:
  - rapid modernization
  - lifestyle changes
  - western culture influences
  - decreased physical activity.

- It is believed transitions in diet, nutrition, and activity patterns fuel the obesity epidemic (Parizkova, Chin, Chia & Yang, 2007).

- Paucity of studies on obesity and overweight among Filipinos.
Study Purpose

- To determine differences in dietary patterns and physical activity level among Blacks, Hispanics, and Filipinos.

- To determine differences in dietary patterns and physical activity level between mothers and children.
THE PROBLEM

• Obesity – an escalating problem

• Health Conditions
  – CAD, HTN, ARF, Asthma, Sleep Apnea
  – Psychological conditions:
    • Body Image
    • Systematic discrimination → self esteem

• Increased health risks → increased medical care and costs

• Costs of obesity are difficult to quantify…
Societal Impact

Concern about obesity centers on the link between obesity and increased health risks that translate into increased medical care and costs.
THE CHALLENGE

Build a systematic database upon which to design community-based health education or intervention programs that are sensitive to the cultural uniqueness of the target population.
Research Questions

RQ1: What are the differences among Black, Filipino, and Hispanic mothers in family eating and activity practices?

RQ2: What is the difference between mothers and children in eating and activity habits across cultural groups?
METHODOLOGY

Study Design
  – Descriptive

Study Setting
  • Health clinics
  • Church
  • Community Centers
  • Homes

• Subject Recruitment
  – Poster and bulletin board
  – Oral presentation

Recruitment Posters on bulletin Boards
Consenting mothers & assented Children WT, HT, BP

Black mothers and Children n= 21
Hispanic Mothers and children n= 60
Filipino mothers and children n= 29

Black mothers and Children n= 21
Hispanic Mothers and children n= 60
Filipino mothers and children n= 29
Inclusion Criteria
Consenting mother w/ child 7-18 year old

Understands directions in English or Spanish

Study Sample
Convenience, with informed consent secured from each subject.

Recruitment Protocol
- IRB Approval
- Informed Consent
- Assent

Decide About the Study
Do you agree to participate in the study and give the nurse researchers permission to use your answers?
Multicultural sample of children

Haitian

Filipino

Cuban
Sample Characteristics

Ethnicity (110)

- Black (21) 19.0%
- Filipino (29) 26.0%
- Hispanic (60) 55.0%

Mother’s Place of Birth

- United States 25%
- Other Country 75%

Child’s Place of Birth by Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>United States</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>7%</td>
<td>6%</td>
<td>13%</td>
</tr>
<tr>
<td>Filipino</td>
<td>1%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17%</td>
<td>50%</td>
<td>67%</td>
</tr>
</tbody>
</table>
INSTRUMENTS

Background Information Questionnaire - characterize the sample and assess potential correlates of family eating & activity habits

Family Eating and Activity Habit Questionnaire (Golan & Weizman, 1998).

measures activity level, stimulus exposure, eating related to hunger, & eating style

Sphygmomanometer
Detecto Weighing Scale
Rosenberg Self-Esteem Scale
DATA COLLECTION

Weights, heights, and blood pressures taken before questionnaires were administered.

Data collection via structured interview or self-administered questionnaires takes 35-45 minutes.
DATA ANALYSIS

• Descriptive statistics: sample characterization…

• Inferential statistics:
  – ANOVA – explore independent and interactive effects
  – Tukey Post Hoc tests
  – Paired T-Tests
# Findings: Descriptive Statistics

## Eating Habits

<table>
<thead>
<tr>
<th>Children’s Eating Snacks</th>
<th>n</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
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</thead>
<tbody>
<tr>
<td><strong>Number of snacks</strong></td>
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<td></td>
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<td><strong>3.89</strong></td>
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<td><strong>9.00</strong></td>
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<tr>
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<tr>
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<td>2.35</td>
<td>1.63</td>
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<tr>
<td><strong>Eats snacks w/o permission</strong></td>
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<td></td>
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</tr>
<tr>
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<td>1.91</td>
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<tr>
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<td>97</td>
<td>2.25</td>
<td>1.44</td>
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</tr>
</tbody>
</table>
ANOVA for Independent and Interaction Effects

Our study findings show that:

– Filipino children eat snacks significantly more than Hispanics or Blacks (df=2, F=25.98, p=.000).

– More Filipino children eat snacks without permission than Hispanics or Blacks (df=2, F=3.16, p=.047).

– Hispanic mothers add more of the snacks and sweets during weekends than Blacks or Filipinos (df=2, F=3.89, p=.024).
# Findings: Eating Habits

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mother’s Eating Pace</strong></td>
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<tr>
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<td></td>
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</tr>
<tr>
<td>Black</td>
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<td>.95</td>
<td>.60</td>
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<td>.84</td>
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</table>
ANOVA for Independent and Interaction Effects

• Hispanic mothers scored significantly higher than Black or Filipinos in eating pace (df=2, F=3.89, p=.000).

• Hispanic children scored significantly higher than Blacks or Filipinos in eating pace (df=2, F=3.28, p=.042).
# Findings: Eating Behaviors

<table>
<thead>
<tr>
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<th>Maximum</th>
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<td></td>
<td></td>
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</tr>
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<td><strong>Child’s Behaviors</strong></td>
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</tr>
<tr>
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<td>12.22</td>
<td>7.36</td>
<td>1.00</td>
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</tbody>
</table>
ANOVA for Independent and Interaction Effects

- Hispanic mothers scored significantly higher than Filipinos or Blacks in eating behaviors (df=2, F=3.89, p=.024).

- Hispanic children scored significantly higher than Filipinos or Black in eating behaviors (df=2, F=3.28, p=.042).
## Findings

### Eating Habits: Usual Eating Place at Home

<table>
<thead>
<tr>
<th>Eating in TV/Living Room</th>
<th>n</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
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</thead>
<tbody>
<tr>
<td><strong>Mother Eats in TV Room/sala</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Black</td>
<td>21</td>
<td>3.85</td>
<td>2.49</td>
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<tr>
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<td>4.02</td>
<td>2.41</td>
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<td>9.00</td>
</tr>
<tr>
<td><strong>Child Eats in TV Room/sala</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>21</td>
<td>3.67</td>
<td>1.65</td>
<td>2.00</td>
<td>8.00</td>
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<tr>
<td>Filipino</td>
<td>28</td>
<td>3.37</td>
<td>1.94</td>
<td>0.00</td>
<td>8.00</td>
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<tr>
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<td>3.44</td>
<td>1.63</td>
<td>0.00</td>
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</table>
Tukey Post Hoc Tests for Significant Differences in Mothers’ and Children’s Usual Eating Place at Home

- Hispanic mothers scored significantly higher than Blacks having meals in the TV room (mean difference = 23.477, p = .018).

- Black children scored significantly higher than Hispanics having meals in the TV room (mean difference = 5.818, p = .047).
Findings: Descriptive Statistics
Activity habits: Time spent in TV/computer games

<table>
<thead>
<tr>
<th>Activities</th>
<th>n</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<th>Maximum</th>
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<tr>
<td><strong>Time spent in TV (MOM)</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Black</td>
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<td>30.73</td>
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<td>32.39</td>
<td>0.00</td>
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</tr>
<tr>
<td><strong>Time spent in TV (Child)</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
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<td>14.37</td>
<td>9.18</td>
<td>0.00</td>
<td>40.00</td>
</tr>
</tbody>
</table>
Tukey Post Hoc Tests for Significant Differences in Mothers’ and Children’s TV/Computer Usage

- Black mothers have significantly higher mean time spent for TV/computer games than Hispanics or Filipinos (df=2, F=3.84, p=.025).

- Black children also showed longer average time of TV/computer usage than Filipinos or Hispanics (df=2; F=3.18, p=.046).
Findings: Activity Habits

<table>
<thead>
<tr>
<th>Activities (Hours spent/week)</th>
<th>n</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
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<tr>
<td><strong>Mother’s Physical Activities</strong></td>
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<td></td>
<td></td>
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<td>6</td>
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<tr>
<td><strong>Child’s Physical Activities</strong></td>
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<td></td>
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</tr>
<tr>
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<td>10</td>
<td>9</td>
<td>4</td>
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<tr>
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<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>11</td>
<td>19</td>
<td>1</td>
<td>176</td>
</tr>
</tbody>
</table>
Tukey Post Hoc Tests for Significant Differences in Mothers’ and Children’s Physical Activities

- Filipino mothers and children scored significantly higher than Blacks or Hispanics for average time spent in physical activities per week, the mothers ranging from 1-200 hours (p=.032).

- Filipino mothers’ reports depicted their children as spending an average of 2-40 hours per week in physical activities.

- Black children ranged from 4-176 hours per week on physical activities, commonly running and sports.

- For Filipino mothers and children, activities commonly engaged in are tennis and swimming.
Paired T-Tests for activity practices

- Mothers spent significantly more leisure time than their children ($t = -2.37, df=94, p=.02$).

- When alone, children get bored more often than mothers do ($t = -.609, df=95, p=.000$).

- Mothers’ eating in the TV room is highly associated with children eating in the TV room ($t = .2.88, df= 96, p =.005$).
The 3 ethnic groups significantly differed in:

- Number of snacks and sweets kept at home (F > B or H).

- Additional snacks bought for weekends (H > B or F).

- Child eating snacks without permission (F > B or H).

- Similarity in eating behavior and pace between mother and child (H > B or F).

- Time spent in physical activity (F > B or H).

- Number of hours spent in watching TV or playing electronic games (B > F or H).
Conclusion

• Overall,
  – Mothers spend significantly more leisure time than their children.
  – Children get bored more easily than mothers do, when left alone.
  – Mothers eating in the TV room is highly associated with the children eating in the TV room.
Implications

Findings provide a database for nurses and other health care providers…

– Raise public awareness of lifestyle behaviors (eating and physical activity practices) that predispose children and adults to overweight and obesity, particularly among ethnic minority groups.

– Anticipatory counseling on nutrition and physical activity for overweight prevention in client encounters.

– Development of evidence-based, client-tailored lifestyle modification programs
Implications

• Focus groups with overweight school age children and adolescents are likely to motivate them to do something about their body weights, inasmuch as they tend to be present oriented.

• Adolescents’ particularly attention to body image should be capitalized to motivate them about maintaining optimal body weight.

• By raising awareness about childhood obesity, a better understanding can be obtained to develop better treatment modalities.
Recommendations

Replication of this study globally to establish the generalizability of the findings in a wider range of community settings and vulnerable population groups.

Incorporation of planned physical activity in schools and community health centers, such as dance and healthier eating practices in lifestyle modification, may prove to be cost-effective.
ACKNOWLEDGEMENTS

Participating Mothers and Children
Collaborating Community Agencies
Data Collectors
MINIMAX Consulting for Statistical Analysis
Thank you

Questions?