Impact of Menu Labeling on Adolescents in Four Diverse Los Angeles Communities
Valerie Ruelas, MSW, Ellen Iverson, MPH, Jennifer Jackson, MPH, Eugene Nguyen, BA, Meghan Treese, BS, Cesar Arauz-Cuadra, AAS
Children's Hospital Los Angeles & The Keck School of Medicine of University of Southern California

**Background**

The 2010 Federal Patient Protection and Affordable Care Act mandates that fast-food chain restaurants with over 10 outlets clearly display calorie content of all menu items. The impact of calorie menu labeling on adolescents is unclear, especially when comparing communities with significant differences in rates of overweight/obesity and access to healthy food choices.

**Methods**

Venue exit surveys assessed the impact of menu labeling on 528 adolescent consumers of two fast-food chain restaurants in four diverse socio-demographic Los Angeles County communities including: East Los Angeles (ELA), South Los Angeles (SLA), Culver City (CC) and Manhattan Beach (MB).

The majority of respondents ate fast food 6 times a week (SLA - 86.1%, ELA - 78%, CC – 89% and MB – 87%) with over half considering the purchase a snack between meals. Many (53%) noticed the menu labeling with over 15% finding the information confusing. Noticing information was similar among gender and by venue, however, females were more likely to be confused by the menu labeling and have their order influenced. Overall, only 14% of those who noticed the calorie information were influenced enough to make order changes. Though slight variance by community, nearly 20% of respondents stated that did not know how many calories they should eat (range: 200-16,000; mean: 1,848). The mean caloric intake was not significantly different for those who regarded their food purchase a snack (52.7 ± 305.7) vs. a meal (762.8 ± 332.9). When asked about weight, 20% of males and 35% of females reported being slightly overweight or over weight with a significant amount of females trying to lose weight.

**Key Survey Findings**

- **How often do you eat fast food per week?** Breakdown by neighborhood:
  - SLA: (518), ELA: (118), CC: (101), MB: (96)
  - Only Meal for the Day: 4.0% by SLA, 5.0% by MB, 5.7% by CC, 3.1% by ELA
  - Snack in between meals: 57.3% by SLA, 56.3% by MB, 59.0% by CC, 53.9% by ELA
  - One of several meals: 38.7% by SLA, 38.5% by MB, 35.2% by CC, 43.0% by ELA

- **Dietary Questionnaire**
  - calorie intake: 15.3% by SLA, 15.3% by MB, 13.7% by CC, 11.0% by ELA
  - gender difference: males 15.3% vs. females 13.7% (p = .001, p < .001)
  - calorie intake by venue: 15.8% by SLA, 15.3% by MB, 13.7% by CC, 11.0% by ELA

- **Dietary Knowledge**
  - How many calories do you think you should eat per day?
    - 1000 calories: 15.5% by SLA, 15.2% by MB, 13.6% by CC, 11.3% by ELA
    - 1500 calories: 25.5% by SLA, 26.2% by MB, 24.4% by CC, 22.8% by ELA
    - 2000 calories: 36.3% by SLA, 37.1% by MB, 36.3% by CC, 35.2% by ELA
    - gender difference: males 16.1% vs. females 12.3% (p = .001, p < .001)

**Conclusions**

Calorie posting does not appear to significantly impact purchasing behavior. Limited knowledge of appropriate calorie intake likely impacts the meaning of posted calories. More calorie education and clearer posting is needed to adequately inform consumers.

**Acknowledgements**

Source of funding: RoseHills Foundation, California Community Foundation – Centinella Valley Medical and Community Funds and the NIH – NHMRI “UCLA/USC Center for Population Health and Health Disparities”

CHLA: Meghan Treese, Cesar Arauz-Cuadra, Jennifer Jackson, Griselda Monroy, Rachel Beber USC, John Chang, Gabby Rios, Rosalba Cain, Jose Alvarez, Isaac Miranda, Brenda Manzanarez

Special thanks to Mandy Hillstrom, PhD and the students of California State University, Los Angeles School of Kinesiology and Nutritional Science and Department of Public Health