

Is Caregiver Concordance on Feeding Practices, Among Latino Mothers, Fathers, and Grand-mothers Associated with Child BMI Percentile? A Longitudinal Study

Kenny Morales Rodriguez, MSIV ¹ ; Alma Guerrero, MD^{1,2}

¹David Geffen School of Medicine at UCLA, ² Mattel Children’s Hospital at UCLA

Background

- A limitation of many early childhood obesity interventions is their exclusive focus on mothers or a single caregiver. This limitation overlooks the important role other family members have in influencing and shaping many obesogenic behaviors in young children
- Identifying whether concordance/discordance between caregivers on dietary and feeding practices is related to early childhood obesity risk can help inform more effective strategies for early childhood obesity interventions

Aims

- To assess the degree of similarity or differences in attitudes related to child weight-related behaviors (i.e. family meals, feeding practices) among caregivers
- To determine if family concordance or discordance is associated with child dietary practices and weight status

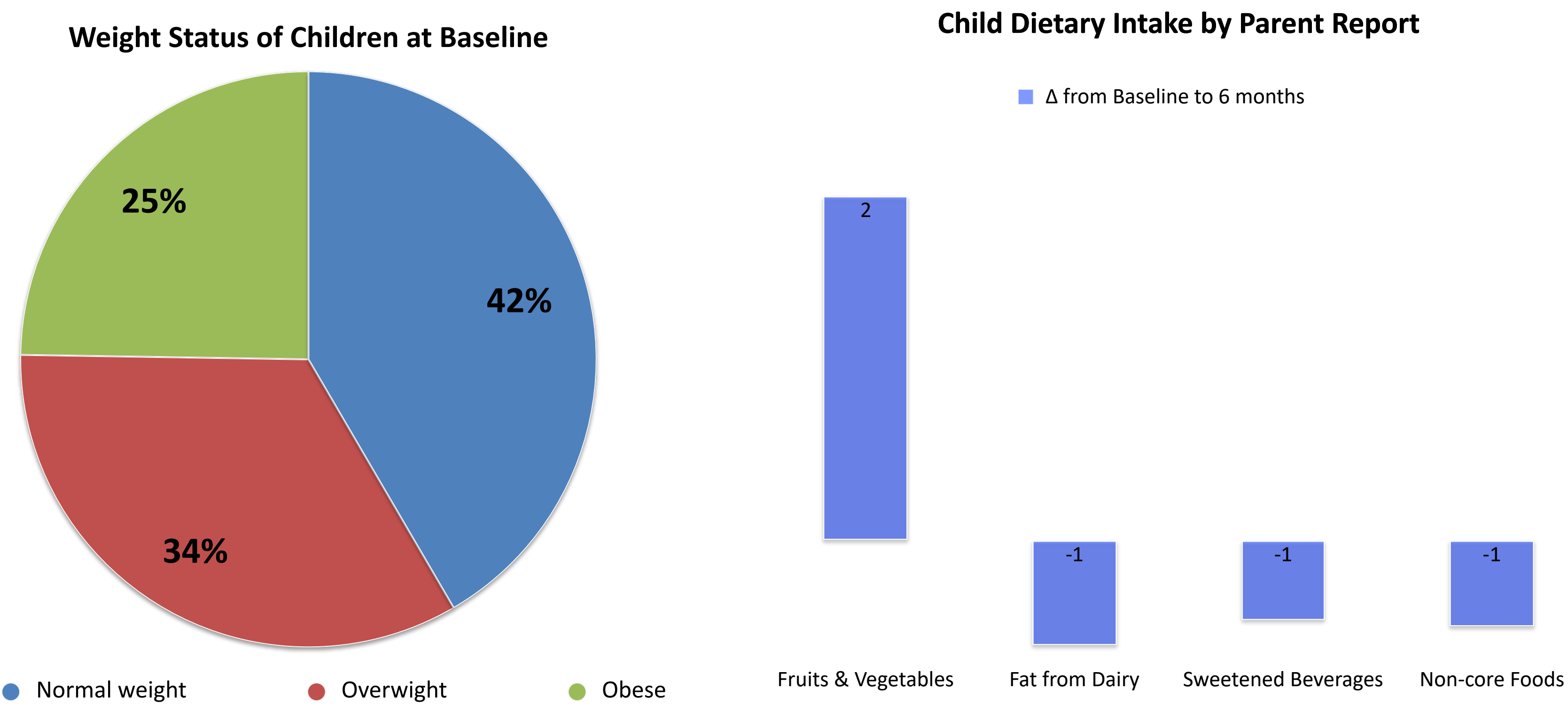
Methods

- **Longitudinal study (6 months)**
- **Population:** Convenience sample of Latino families (mother, father, and/or grandmother) who live with children between the ages of 2-5 yrs old. Participant recruited from WIC and Early Education Centers in East Los Angeles
- **Intervention:** 4 week hybrid program (weekly one-hour in-person session + multi-media messages sent by mobile phone that included videos clips, interactive prompts, strategies to support evidence based and age-appropriate behavior changes)
- **Measurements:** Child and caregiver height and weight measured at baseline, 1 month, and 6 months by using NHANES anthropometry procedure
- Discordance scale included 21 questions that assessed caregiver views on child dietary intake and feeding practices
 - Sample of questionnaire: “My partner and I have different ideas about what to feed to our child;” 1 = Not true of us; 2 = A little bit of true of us; 3 = Somewhat true of us; 4 =Very true of us
- **Analysis:** Mixed effects linear regression analysis was used to examine the association between caregiver concordance on feeding practices and changes in the child's BMI percentile
- Models adjusted for child’s sex, age, and parent BMI

Results

	Mothers N = 49	Fathers N = 40	Grandmothers N= 18
Age (years), mean (+SD)	33.2 (±5.4)	36.7 (±7.2)	57.1(±7.9)
US born, %	40%	38%	11%
< H.S. degree, %	34%	54%	77%
Spanish-speaking home, %	73%	75%	75%

Table 1. Caregiver’s Characteristics at Baseline



	Unadjusted		¹ Adjusted	
	Change in child’s BMI % for 1 point increase in disagreement (95% CI)	p value	Change in child’s BMI % for 1 point increase in disagreement (95% CI)	p value
All Caregivers	0.22 (-0.75 - 1.20)	0.66	0.38 (- 0.57 - 1.35)	0.43
Mom	5.35 (1.43 - 9.29)	0.008	5.10 (1.15 - 9.06)	0.01
Dad	2.30 (-1.78 - 6.39)	0.26	2.74 (-0.36 - 6.85)	0.19
GMA	- 0.13 (-5.90 - 5.65)	0.97	1.03 (-5.16 - 7.22)	0.74
¹ Models adjusted for child’s sex, age, and parent BMI				

Table 2. Unadjusted and Adjusted Disagreement variable

Conclusions

- The total study sample included 49 low-income Latino families (49 mothers, 40 fathers, 18 grandmothers, and 54 children) from East Los Angeles
- Over 90% were of Mexican descent and approximately 90% reported residing in low-income households
- There was a reduction in child’s BMI at 6-months post-baseline (baseline 74.8 (± 3.1) and 6 months 70.2 (± 3.2)). Parental weight remained stable
- Improved dietary changes were noted post intervention: increase consumption of fruits and vegetables, and a decrease consumption in fat, sweeter beverages, and non-core food
- High discordance variable in mother showed a positive association with child’s BMI percentile. The higher the discordance variable on parental practices, the higher the child’s BMI percentile
- No association was found for father and grandmother

Discussion

- Given the detrimental health consequences of childhood obesity, recent studies have aimed to increase our understanding of the role of parents within the home environment and familial factors in increasing or decreasing childhood obesity risk
- The results of this study show that greater perception of disagreement about feeding practices = higher child’s BMI %, supporting existing literature showing that parent’s concordance on familial and parental factors is protective against childhood’ obesity
- When evaluating family unit, mother’s reported level of disagreement has an effect on child’s BMI % suggesting that mother is an imperative member of the family to target obesity prevention interventions
- **Limitations of the study:** small convenience sample size and lack of control group
- **Future research:** strategies to increase concordance among family unit

References

1. Berge JM, MacLehose RF, Meyer C, Didericksen K, Loth KA, Neumark-Sztainer D, He Said, She Said: Examining Parental Concordance on Home Environment Factors and Adolescent Health Behaviors and Weight Status. J Acad Nutr Diet. 2016 Jan;116(1):46-60. doi: 10.1016/j.jand.2015.05.004. Epub 2015 Jul 7. PMID: 26163351; PMCID: PMC4698112.
2. Cardel M, Willig AL, Dulin-Keita A, Casazza K, Beasley TM, Fernández JR. Parental feeding practices and socioeconomic status are associated with child adiposity in a multi-ethnic sample of children. Appetite. 2012 Feb;58(1):347-53. doi: 10.1016/j.appet.2011.11.005. Epub 2011 Nov 10. PMID: 22100186; PMCID: PMC3264816.
3. Tschann JM, Martinez SM, Penilla C, Gregorich SE, Pasch LA, de Groat CL, Flores E, Deardorff J, Greenspan LC, Butte NF. Parental feeding practices and child weight status in Mexican American families: a longitudinal analysis. Int J Behav Nutr Phys Act. 2015 May 20;12:66. doi: 10.1186/s12966-015-0224-2. PMID: 25986057; PMCID: PMC4453102.
4. Karp SM, Barry KM, Gesell SB, Po’e EK, Dietrich MS, Barkin SL. Parental feeding patterns and child weight status for Latino preschoolers. Obes Res Clin Pract. 2014 Jan-Feb;8(1):e88-97. doi: 10.1016/j.orcp.2012.08.193. PMID: 24548581; PMCID: PMC4449262.

Acknowledgements

Thank you to Dr. Nickholas Jackson from the Department of Medicine Statistics Core for his invaluable help in assisting with the analyses for this project



David Geffen
School of Medicine