Obesity

Early childhood represents a time period in which neurological, cognitive, social and emotional development is vital in setting the stage for overall health throughout the lifespan. The WIC program provides nutritious food, counseling, education and referrals to other services and programs in effort to support this critical developmental period. These benefits aim to support healthy eating behavior and physical activity, reduce food insecurity and promote maternal, infant and child health and well-being. Much research has been dedicated to examine the association between certain health outcomes and participation on the WIC program, including obesity.

- Research has suggested that participation on the WIC program may be protective against obesity among children experiencing dual-stressors (food insecurity and caregiver depressive symptoms).¹
- In a sample of preschoolers that had an obesity rate three times the national rate, children in households enrolled in WIC weighed significantly less than those children whose families did not receive benefits.²
- One study examining BMI for women in New York City primary care practices found that food insecurity was significantly associated with obesity only among women who were not enrolled in WIC or SNAP. The authors suggest "that food assistance program participation plays a protective role against obesity among food-insecure women."³
- Promoting exclusive breastfeeding is important in improving outcomes related to childhood obesity as children in the WIC program who were breastfed have been shown to have lower risk for obesity.⁴

In 2009, the WIC program made revisions to the food packages to more closely align with the 2005 Dietary Guidelines for Americans and the infant food and feeding practice guidelines of the American Academy of Pediatrics. Changes included increased amount for the cash value voucher for fruits and vegetables, decreased amount of juice and cheese, expanded access to whole-grains and requiring low-fat or skim milk after the first two years of life.

- Using data from 2000 to 2014, one study found the rate of obesity among WIC participants aged 2 4 years was increasing by 0.23 percentage points annually before the 2009 revisions, but decreased by 0.34 percentage points per year after the revisions.⁵
- Numerous other studies have found that the revisions to the food packages are associated with lower prevalence of obesity among children.^{6,7,8}
- A study that included 17 million children aged 3 23 months enrolled on the WIC program found the prevalence of high weight-for-length decreased from 2010 to 2014, after increasing or remaining constant since 2000.9
- Another major study found a statistically significant decrease in obesity prevalence between 2010 and 2016 among children aged 2 to 4 years enrolled in the WIC program in 41 of 56 WIC state or territory agencies.¹⁰

1. Black MM, Quigg AM, Cook J, Casey PH, Cutts DB, Chilton M, Meyers A, Ettinger de Cuba S, Heeren T, Coleman S, Rose-Jacobs R, Frank DA. WIC participation and attenuation of stress-related child health risks of household food insecurity and caregiver depressive symptoms. *Arch Pediatr Adolesc Med.* 2012 May;166(5):444-51. doi: 10.1001/archpediatrics.2012.1. PMID: 22566545.

2. Johnson P, Montgomery M, Ewell P. Federal Food Assistance Programs and Cardiovascular Risk Factors in Low-Income Preschool Children. *J Community Health*. 2016 Jun;41(3):626-34. doi: 10.1007/s10900-015-0138-6. PMID: 26704910.

3. Karnik A, Foster BA, Mayer V, Pratomo V, McKee D, Maher S, Campos G, Anderson M. Food insecurity and obesity in New York City primary care clinics. *Med Care*. 2011 Jul;49(7):658-61. doi: 10.1097/MLR.0b013e31820fb967. PMID: 21430579.

4. Anderson CE, Whaley SE, Crespi CM, et al. Every month matters: longitudinal associations between exclusive breastfeeding duration, child growth and obesity among WIC-participating children. *J Epidemiol Community Health.* 2020; 74:785-791.

5. Daepp MIG, Gortmaker SL, Wang YC, et al. WIC food package changes: trends in childhood obesity prevalence. *Pediatrics*. 2019; 143(5):e20182841.

6. Chaparro MP, Anderson CE, Crespi CM, Whaley SE, Wang MC. The effect of the 2009 WIC food package change on childhood obesity varies by gender and initial weight status in Los Angeles County. *Pediatr Obes.* 2019 Sep;14(9):e12526. doi: 10.1111/ijpo.12526. Epub 2019 Apr 3. PMID: 30942561.

7. Chaparro MP, Crespi CM, Anderson CE, Wang MC, Whaley SE. The 2009 Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) food package change and children's growth trajectories and obesity in Los Angeles County. *Am J Clin Nutr.* 2019 May 1;109(5):1414-1421. doi: 10.1093/ajcn/nqy347. PMID: 31011750.

8. Chiasson MA, Findley SE, Sekhobo JP, Scheinmann R, Edmunds LS, Faly AS, McLeod NJ. Changing WIC changes what children eat. *Obesity* (Silver Spring). 2013 Jul;21(7):1423-9. doi: 10.1002/oby.20295. Epub 2013 May 22. PMID: 23703806.

9. Freedman DS, Sharma AJ, Hammer HC, et al. Trends in weight-for-length among infants in WIC from 2000 to 2014. *Pediatrics*. 2017;139(1):e20162034.

10. Pan L, Blanck HM, Park S, Galuska DA, Freedman DS, Potter A, Petersen R. State-Specific Prevalence of Obesity Among Children Aged 2-4 Years Enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children - United States, 2010-2016. *MMWR Morb Mortal Wkly Rep.* 2019 Nov 22;68(46):1057-1061. doi: 10.15585/mmwr.mm6846a3. PMID: 31751324; PMCID: PMC6871901.

