The “nutrition transition” refers to increased rates of overweight/obesity and related chronic diseases associated with lifestyle changes accompanying the transition from a rural, subsistence-based to an urban, market-centered economy. Latin America, including Brazil, has experienced high rates of economic development and nutrition transition. Research among Ribeirinhos living in rural, Amazonian communities indicate that they have become increasingly market oriented, especially since the implementation of a conditional cash-transfer program (Bolsa Família) that reached families between 2006 and 2007. To investigate the effect of increased market participation on the nutritional status of adults and children, we compared anthropometric data (height, weight, skin folds, and circumferences) on 415 Ribeirinhos collected in 2009, with data collected in the same communities in 2002 (n = 471). On the basis of current economic changes, we hypothesized that rates of overweight/obesity and body-fat percentage would increase and rates of stunting would decrease between 2002 and 2009. Consistent with our hypotheses, average BMI increased in adult women; average z-scores for body fat were higher for male and female adults and children. Unexpected was the lower rate of overweight/obesity in adults males, particularly those 40–44 years. As predicted, rates of stunting among children (<18 years) declined over time (males 53%, females 50% in 2002; males 42.3%, females 44.7% in 2009) and average z-scores (~2.1 males, ~1.9 females in 2002; males ~1.81, females ~1.74 in 2009) increased. Our findings suggest that a shift to a market-centered economy does not affect all members of a community uniformly, nor does it produce necessarily positive or negative health outcomes.

Contract grant sponsor: Wenner-Gren; Contract grant number: 6861; Contract grant sponsor: NSF; Contract grant number: BCS 02011936; Contract grant sponsor: NIH; Contract grant number: R21-HD47943-05.

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Economically disadvantaged urban women in Colombia have low physical activity levels. PD Stephens, HS Williams, DL Dufour. Department of Anthropology, University of Colorado, Boulder.

The level of physical activity among urban women in developing countries is not well understood. Here, we report the results of a pilot study using accelerometers to assess physical activity in economically disadvantaged women living in Cali, Colombia. The subjects were 52 women, 18–44 years of age. Each wore an accelerometer for three consecutive days which recorded their movements in terms of counts; higher activity levels yielded higher counts. Activity levels were classified as sedentary, light, moderate, or vigorous based upon the number of counts recorded per minute using standard cutoff points. We defined total physical activity (TPA) as minutes spent engaged in light, moderate, and vigorous activities. The activity levels of the subjects were sedentary to light; not more than a minute or two could be classified as moderate to vigorous. Interestingly, we found no correlation between activity levels and BMI or employment status. Observations of a subsample suggest that that these women dedicated ~5–9 h per day towards domestic activities (child care, food preparation, and household upkeep). These are activities normally thought of as “light.” Compared to a national sample of USA, women of similar age (ages 18–60+) and BMI (means 27.6 and 28.1 for the Colombian and USA women, respectively), Colombian women spent a greater percentage of TPA in light activities, but significantly less in moderate and vigorous physical activities. We conclude that Colombian women have a lower level of physical activity than USA women.

Contract grant sponsor: Innovative Seed Grant from the University of Colorado, Boulder.

D: 4:30 p.m.

Effects of diet, household economy, and social stress on growth and health of indigenous Shuar of Ecuadorian Amazonia. LS Sugiyama1,2,3, JJ Snodgrass1,2, AD Blackwell1,2, FC Madimenos1,2, MA Liebert1,2. 1Department of Anthropology, “Institute of Cognitive and Decision Sciences, University of Oregon, Eugene, Oregon; 2Center for Evolutionary Psychology, University of California, Santa Barbara.

Although much of the world’s population lives in market economies, precisely how this market integration has affected critical life history trade-offs (LHTs) that impact health remains largely unknown because so many factors have changed along with the transition to market economy. Such studies are critical, however, because our biology is largely adapted to pre-market conditions. The Shuar Health and Life History Project is based on a simple premise: people physiologically and psychologically regulate their life history strategies in response to socioeconomic conditions, such that increasing market integration (MI) will affect key LHTs that affect health. Traditionally forager-horticulturalists, Shuar now experience a wide range of MI across their territory. Our past work shows Shuar children in communities close to towns have higher odds of stunting than more traditional, but closely related Shiwiar, suggesting MI has negative effects on Shuar growth. Further analysis shows non-linear relationships between MI, social investment, and health. Here, we investigate the relationship between market integration measures (diet, material style of life, and household economic survey data) and markers of social stress, growth, and health. We use factor analysis to reduce food frequency, style of life, and household economic variables, and to characterize the differences between remote and more market integrated communities. We use multiple regression to control for other factors (e.g., age, sex, family wealth), while testing the association between market integration measures and growth and health outcome variables.

Contract grant sponsor: NIH (via the Center for Evolutionary Psychology, UCSB); Contract grant number: 5DP1OD000516-04; Contract grant sponsor: NSF; Contract grant number: BCS-0824602; Contract sponsors: Wenner Gren Foundation, Ryoichi Sasakawa Young Leaders Fellowship Fund, University of Oregon.