

1106-A0-15

Diana L. Thomas*, Montclair State University, Montclair, NJ 07043. *Dispelling obesity myths through mathematical modeling.*

Why do individuals only lose a modest amount of weight after performing regular exercise? Why do people plateau in a few months despite reporting high dietary compliance? Are nationwide obesity interventions responsible for leveling rates of obesity prevalence? Do liquid carbohydrates contribute more to weight gain than solid carbohydrates? There are several prevailing hypothesis formulated to answer these questions that are often vigorously debated in both the scientific and public policy arenas. Many times the formed hypotheses are sensible and seem so reasonable that they become strongly held beliefs even despite existence of experimental evidence demonstrating otherwise. These beliefs impact individual perception, health care advice, governmental health standards, and even experimental research design. Mathematical modeling brings a unique and new clarity to address these very important questions. Using several mathematical analyses I will dispel several of these long-standing and widely accepted beliefs in obesity and weight regulation research. (Received April 28, 2014)