Throughout the last century a positive secular tendency has been identified in the physical growth in most part of the world population, specifically in children and teenagers. The situation in Chile has not differed from the universal reality, showing a rise in all age groups constituting one of the most serious problems of Chile's public health system. In light of that issue, the tendency of the nutritional state and body composition of two groups of high school students from Valparaiso, Viña del Mar and Concón, V región, Chile, between the periods 1984/1985 and 2009/2010 have been studied. The cohorts present significant differences with an increase in the variables of BMI (Body Mass Index) and body fat percentage (p< 0,05) in the 2009/2010 cohort. This rise is more predominant in women.