Food additives are not a natural constituent of a food, which are added to foods in processing, preparation, implementation, packaging, transport and storage phases for technological purposes and inconsumable as a food whether or not nutritious. In recent years, this has been shown in several studies that food additives play a role in the development of cancer, liver-kidney failure and other diseases via their mutagenic effects (1). Some of the food additives have been tested in different organisms and these studies have been reported genotoxic and carcinogenic effects of some food additives (1-3). Purpose of the current study was to investigate effects of citric acid (E330, CA), ascorbic acid (E300, AA) and sodium citrate (E331, SC) on DNA in human lymphocytes via comet assay. CA, AA and SC are used as food additives with the purpose of pH regulator, flavor enhancer, preservative, antioxidant, stabilizer in drinks, jellies, baked goods, jams, marmalades, candies, canned fruits and vegetables, dairy products, meat products and baby foods (1-4). Human lymphocytes were incubated with CA, AA and SC in different concentrations (50, 150, 300, 600 µg/mL) for 1 hour at 37 °C. After that tail length, tail moment and % tail DNA parameters have been evaluated. In conclusion, the results indicate that there is a significant increase in the DNA damage in lymphocytes after 1h of in vitro exposure to CA 600 µg/mL dose when the values compared to control group and other doses of CA. However, any statistically significant difference could be found in the other doses of CA and any doses of AA and SC.