

2 Introduction

On June 8th 1999, an outbreak of health complaints (nausea, vomiting, abdominal pain, malaise) potentially related to the consumption of glass bottled Coca-Cola consumption, occurred in a school in Bornem, Belgium. The majority of the students were taken to the hospital. The 10th, 11th and 14th June, outbreaks with the same but weaker complaints occurred in four other schools (Brugge, Harelbeke, Kortrijk and Lochristi). Between the 8th and the 20th June, the Poisoning Call Centre (PCC) reported over 1000 calls, for which 50% mentioned complaints related to Coca-Cola consumption and 50% asked for information [1]. Two different Coca-Cola production sites were suspected.

Coca-Cola Company rapidly reacted and recalled the suspected lot in Bornem from the market the 9th of June. Different providers supplied the Coca-Cola products of the schools. The production plant of Antwerp supplied the Coca-Cola products of Bornem; the Dunkerque plant in France supplied those of Brugge and Lochristi. The production plant of Dunkerque and Gent supplied the Coca-Cola products of Harelbeke. The supplier of Kortrijk was unknown.

Coca-Cola Company announced on 15 June that they had identified two causes for those outbreaks. In both cases, the symptoms were attributed to a trigger factor (an off odour) responsible for a mass sociogenic illness (MSI). In Bornem, the off odour in the glass bottle of regular Coca-Cola was attributed to the presence of carbonyl sulphide, contaminating carbon dioxide, and hydrogen sulphide. In the other schools, a fungicide applied on transport pallet had contaminated the outside of some cans from the production plant of Dunkerque. A chemical reaction between this fungicide and the chlorinated products used to clean automatic dispensers could provide the methyl-cresol that was also considered to be responsible for a foul odour and taste. In both cases, the toxicological analyses from Coca-Cola Company concluded that the very low concentration of both incriminated substances could not cause any toxicity.

The different outbreaks occurred in the midst of the dioxin crisis, just before the elections and at the end-examination period. On June 18, ten days after the onset of the symptoms, the Ministry of Public Health of Belgium contacted the Institute of Public Health (I.P.H.) and asked for a meeting to be held on June 21st in order to discuss the Coca-Cola incident.

Following that meeting, as the evidence for the 2 different causal models proposed by Coca-Cola Company did not convince the Ministry of Public Health, the Epidemiology Unit of the IPH was asked to start an investigation in order to infirm or confirm the epidemiological link with the Coca-Cola products.

In this study, we aim to identify the origin of those outbreaks performing an epidemiological investigation, which results should be confronted to the toxicological results.