Toxic waste poisoning in Abidjan

Epidemiologic and clinical aspects of toxic waste poisoning in Abidjan

Author(s) : Issaka Tiembre, Blaise A Koné, Kouassi Dongo, Marcel Tanner, Jakob Zinsstag, Guéladio Cissé

In the nights of 19 to 21 August, 2006, highly toxic waste products were dumped at various sites in Abidjan, and numerous cases of poisoning were reported to the health authorities, who were unprepared for such a problem.

The research group on Environment and Health in Urban Environment from the Swiss Center of Scientific Research and its partners at the Swiss Tropical Institute undertook this study whose objectives were to: describe the epidemiologic profile of the people poisoned\; identify the main clinical symptoms and the risk factors for poisoning\; and recommend steps to attenuate the effects and to prevent intermediate- and long-term consequences.

Methodology

This cross-sectional study examined the populations living around the discharge sites (n\=6). The sample size was calculated at 619 people per site, to identify a 1% risk and a standard error of 0.4%, because of variability of the human impact factor at the different sites. Households were chosen at each site by the transect technique.

Six teams, each including a physician, a public health agent and a local guide collected the data, after specific training. A pilot investigation made it possible to validate the final questionnaire.

Results

Of 4573 people surveyed, 4344 people, about 95%, were home during the toxic waste discharge. In all, 2369 (51.8%) had signs of poisoning.
Sex, district of residence, and presence at home at the time of the discharge were all statistically related to poisoning.
The distribution of poison victims according to health centre shows that 1297 people (64.4%) visited a health center Ã‚Â¾ 615 of them (about 47.4%) a public or official centre, and 778 (about 60%), an unofficial centre\; 379 (29.2%) were managed by an NGO, 159 individuals (12.3%) by mobile units, 63 individuals (4.8%) by the unofficial public health centre, and 35 (2.7%) at an unspecified site. Of those who sought care, 673 people (about 51.8%) received a medical prescription, and 815 (or 62.7%) had been given the drug directly, for free. 94 individuals (about 7.2%) chose their own self-medication, and 74 people (5.7%) a traditional treatment. In all, 34 people, about 2.6% of those who sought care, were hospitalized. Of the subjects who went to a health centre, 1421 (72.8%) had a positive course and 532 (27.7%) an unfavourable course. The latter complained especially of respiratory signs, in particular a cough and thoracic pains (21.8%), digestive signs (diarrhoea and abdominal distension, about 21.5%), and cutaneous (pruritus) and neurological (headaches) signs (20.7%). Overall, 532 people (21.%) still presented signs during the investigation.

Conclusion

This study highlighted the persistence of the symptoms among many of those poisoned more than 4 months afterwards. This phenomenon continues, although the sites have been partially cleaned: the

long-term effects on population health remain alarming. Thorough multidisciplinary studies are essential to explore the long-term effects.

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