

# HEALTH IMPACTS OF THE HEBEI SPIRIT OIL SPILL ACCIDENT ON THE RESIDENTS OF TAEAN, SOUTH KOREA

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**Background and Aims:** The Hebei Spirit oil spill accident occurred just off the coast of Taean province in South Korea on December 7, 2007. It is estimated that 12,547 KI of crude oil was spilled into the sea near Taean national park. This study investigated health impacts of the oil spill accident in the targeted residents.

**Methods:** Questionnaire survey and chemical analysis were carried out in order to look for health impacts 1 to 2 years following the Hebei Spirit oil spill. Urine samples were collected from the residents and analyzed for metabolites of volatile organic compounds(VOCs) and polycyclic aromatic hydrocarbons(PAHs).

**Results:** Analysis of the oil-related metabolites in the urine samples showed that the concentration of VOCs metabolites drastically decreased as compared to the initial period following the oil spill. On the other hand, metabolites of PAHs showed a trend of gradual decline over time, though the levels were not noticeably different from the control group. The analysis for the environmental samples showed that no VOCs were detected, but PAHs were partly present in groundwater, soil, vegetables, and seafood samples. Questionnaire survey showed that approximately 75% of the residents were concerned about health impacts due to exposure to the oil pollutants and suffered from symptoms such as vertigo, headache, nausea, skin disorders (itch), abnormalities in eyesight, and respiratory malfunctions.

**Conclusions:** The present study showed that various physical symptoms observed among the residents are possibly associated with exposure to oil pollutants and most of the residents recognized such maladies are attributable to exposure to the oil pollutants. Therefore, long-term health impacts should be monitored by the exposure to residual oil pollutants in the oil spill environment.