LONDON (AP) – Giving alternative treatments such as homeopathic remedies instead of conventional medicines to children may have deadly side effects in rare instances, a new analysis says.

Australian researchers monitored reports from pediatricians in Australia from 2001 to 2003 looking for suspected side effects from alternative medicines like herbal treatments, vitamin supplements or naturopathic pills. They found 39 reports of side effects including four deaths.

The study was published online Thursday in the journal Archives of Disease in Childhood, a specialist publication of the medical journal BMJ.

Unlike conventional medicines, whose side effects are tracked by national surveillance systems, there are no such systems in place for alternative therapies.

In the study, researchers found infants to children aged 16 were affected by complementary medicines and that in nearly 65 percent of the cases, side effects were classified as severe, life-threatening, or fatal. In 44 percent of cases, pediatricians believed their patient had been harmed by a failure to use conventional medicines.

"We have known for a long time that alternative medicines can put patients at risk," said Edzard Ernst, a professor of complementary medicine at Peninsula Medical School in Exeter, England. He was not linked to the study.

"Perhaps the most serious harm occurs when effective therapies are replaced by ineffective alternative therapies," he said. "In that situation, even an intrinsically harmless medicine, like a homeopathic medicine, can be life-threatening," Ernst said.

Alissa Lim of the Royal Children’s Hospital in Melbourne and colleagues wrote that all four deaths they identified were caused by a decision to use alternative therapies instead of conventional medicines.

They described one case of a 10-month-old baby who had severe septic shock after being given naturopathic medicines and was assigned to a special diet to treat eczema. In another case, an infant who suffered multiple seizures and a heart attack died after being given alternative therapies — which the parents had chosen due to their concerns about the side effects of regular medicines.

Ernst said people should recognize the limitations of alternative medicines and that practitioners should be careful not to oversell their benefits.