



Humidifier disinfectant: 78 deaths and still in progress

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Dear Editor-in-Chief

South Korea had a rapid industrialization after 1960s. 81.5 % of the country's population lives in urban areas (1). A study shows 37.2 % of citizen use a humidifier and half of them employ humidifier disinfectants (2). It is very popular among urban citizen because of closed dry atmosphere in winter season.

In 2011, unconfirmed viral lung disease was reported as a cause of pregnant death by Korean Center for Disease Control (3). Chemical disinfectant in humidifier was a major contributor agent to lung disease. Victims have been increased up to 78 deaths, 7 transplanted and 147 patients in Oct 2012 (Table 1).

Table 1: Victims of humidifier disinfectant in Korea (Korean Federation for Environmental Movement, 2012 Oct 4th)

	Death	Transplantation (lung, kidney)	Lung disease	Total n (%)
Fetus	2	0	0	2 (1)
Infant	36	0	37	73 (31)
Child	8	1	15	24 (10)
Pregnant	7	2	7	16 (7)
Adult	12	4	59	75 (32)
Unidentified	13		29	42 (18)
Subtotal	78 (34%)	7 (3%)	147 (63%)	232 (100)
Family	20	3	40	42 family 90 persons

The epidemiologic survey reveals that odds ratio of humidifier disinfectants was 47.3 (95 % confidence interval 6.0 to 369.7) (3).

Disinfectants have different ingredient on the type of product. PHMG (polyhexamethylene guanidine) and PGH (Oligo(2-(2-ethoxy)ethoxyethyl guanidinium chloride)) were proved as toxic in animal study. However, CMIT/MIT (chloromethylisothiazolinone/methylisothiazolinone) has no toxic effect in inhalation.

Ministry of Health and Welfare recommended manufacturers to recall their products, and prohibited onto the market. However, victims and their families are still suffered under disease and legal action. Chemical company must have more research and carefulness

before launching of chemical product that can have an effect to human body.

References

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