



Highlights of diseases and event in October 2017

Suffocation and Inhalation of Toxic Gases from Using Gas Water Heater

The Thai Meteorological Department has officially announced that the winter has approached in the country on 23 October 2017 and is expected to end in mid-February 2018. During the winter, both foreigners and local visitors prefer to take their vacation in the northern part of the country. As the temperature drops more and more, the fatal risk from using gas water heater poses higher and higher.

According to the national surveillance reports in the Bureau of Epidemiology during 2008-2017, 19 events of injuries and deaths were reported to occur while taking shower with gas water heater, including 25 cases and seven fatalities. In 2017, three similar events were reported, with four cases and one death from inhalation of carbon monoxide which was produced during incomplete combustion. The carbon monoxide level less than 1,000 ppm can be harmful by reducing oxygen level in the body, which can cause fainting, dizziness, suffocation, unconsciousness and even fatal.

Risk factors include:

- (1) Improper ventilation system in the bathroom such as no window, small window or no ventilator
- (2) Taking bath or staying in the bathroom for a long time
- (3) Taking bath as a last person after many people have used the bathroom and the door was not opened for adequate ventilation
- (4) Having underlying diseases such as heart diseases, hypertension, respiratory diseases or poor health conditions
- (5) Using non-standard gas water heater as specified by the Thai Industrial Standards Institute.

Prevention and control measures are:

1. Inform public health officers in tourist attraction areas with cold temperature and widespread use of gas water heater such as mountainous areas to monitor the deaths which might be associated with gas water heater

2. Inform and warn the managers in lodgings, resorts, meditation centers and related government offices such as Department of Nation Parks to:

- Inspect/install the standardized gas water heaters
- Post warning signs about risks and harms from using gas water heater as well as suggestions to reduce risks such as using water heater not more than 10-15 minutes and avoid bathing continuously by many persons
- Label clear instructions to use water heater properly
- Install water heater in the bathroom with adequate ventilation or ventilator, or place water heater outside the building

Source of information: Outbreak Verification Summary, 43th Week, 23-29 October 2017)