

Fire Safety in Schools: Unsafe Equipment Poses a Threat to Students' Health

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ARTICLE INFO

LETTER TO THE EDITOR

Article history:

Received: 10 May 2020

Revised: 20 May 2020

Accepted: 2 July 2020

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Over the past years, substandard heating systems have resulted in fatal and tragic incidents at schools all over the world. An educational pre-school and primary school unit of Zahedan, the capital city of Sistan and Baluchistan province in Iran, caught fire at 9 a.m. on December 18th, 2018. This incident led to the death of four girl students (1). Fifty-nine students were studying in the school that all of them were

rescued by the help of people and firefighters. However, four of the students were stuck in a class for a long time. Unfortunately, these students were burnt more than 90% and they died after being taken to hospital due to the severe burn and breathing problems. According to the conducted survey and the claim of the fire department, using oil stove in the class was the main reason of fire incident despite the fact that using such oil stove was prohibited in this country. Besides, the corridor between the classrooms was narrow that made it difficult to pass through it and the wooden desks caught fire and its flames spread to the windows.

The factors that increase the vulnerability of school classrooms to the fire include: window railings that make emergency evacuation difficult and sometimes impossible, use of oil stove and wooden desks. Awareness, education, and training have an important impact on the safety promotion and injury prevention, representing the best opportunity for long-term modification of fire safety culture over time (2).

The lessons learned from this fire incident have demonstrated safety principles in school that are crucial and schools should be prepared to response to the disasters effectively. Table 1 illustrates the list of fire cases in Iran's school during the recent 20 years (3).

Table 1. A list of fire cases in school during the recent 20 years in Iran

Place of fire	Year	Reason	Casualty
A school in Shaft city, Gilan Province	1998	Oil Stove	12 Injury
A school in Sefilan village	2004	Oil Stove	12 Injury, 1 Death
A school in Dorodzan village, Gilan Province	2006	Oil Stove	8 Injury
A school in Zahedan	2010	Connection of electric wires	14 Injury, 1 Death
A school in Chabahar	2011	Oil Stove	2 Injury, 3 Death
A school in Shinabad village, Piranshahr city	2012	Oil Stove	29 Injury, 2 Death
A school in Khorramshahr city	2012	Oil Stove	1 Injury
A school in Hashtrud city	2014	Oil Stove	1 Injury
A school in Zahedan city	2018	Oil Stove	4 Death
A school in Zahak city, Sistan and Baluchestan Province	2019	Oil Stove	1 Injury

Some suggestions for school's preparedness for fire include establishing and implementation of the laws and regulations, consideration and allocating sufficient budget for safety measures and education, education and training with best methods as well as comprehensive and exclusiverisk assessment including hazard identification, capacity assessment, and estimation of potential losses, cooperation and interaction between schools and external organization such as fire departments, Emergency Medical Services (EMS), municipalities, hospitals, and burn-related centers, use of proper equipment for fire-extinguishing and development early-warning system and optimization of heating systems in schools (4).

In conclusion, lack of safety standards in schools is one of the major challenges, and the implementation of safety measures is critical for student's health. In this regard, equipping schools with standard heaters and regular inspections, removing dangerous and unsafe materials play the main role in preventing fire.

Conflict of interest

None declared

Funding source

None

Authors' contribution

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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