

Occupational Safety Practices and Implementation in Primary Schools, Perak, Malaysia

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Abstract:

Background: This study was carried out to assess the implementation of occupational safety and practices at all the primary schools in LMS district, Perak, Malaysia.

Materials and Methods: A cross sectional study was carried at 102 schools (91.9% responded) out of 111 schools in LMS district. A self-administered questionnaires form was used to ask about the safety knowledge, practices and implementation in the school.

Results: The data analysis shows that overall occupational safety programmes and implementation are considered shallow. Safety coordinators knowledge on occupational safety legislation (75.5%) were poor due to less courses attended (80.4%). Even though safety programmes only focus on fire safety drill but majority of the respondent did not know how to use the fire extinguisher (62.7%). Many schools did not have fire exit signage (86.4%). Besides that, 76.5% of schools did not have qualified first aider. Almost half of the schools did not have any personnel protective equipment for pupil's usage.

Conclusion: As a conclusion, implementation and practices of occupational safety in all the primary schools are still lacking and need to be improved.

Keywords:- Occupational safety, safety practices, safety programmes, safety coordinators, primary schools.

I. INTRODUCTION

The children at home were taken care by their parents and they taught them about safety at home. Meanwhile, when they were in the school, the school management is fully responsible regarding their safety to avoid any unintentional injuries and violence. Regarding safe school, Ronald D. Stephens, United States National School Safety Center executive director (2013) was said that "Without safe schools, it is difficult, if not impossible for learning to take place". He states that safe learning environment is vital whereby students can learn and teachers can teach in a warm and welcoming safe environment. Shearn et al. (2006) in his research stated that risk education should be start at early stage of personal development.

Even though, Malaysia Ministry of Education (2013) came out with school act and regulation, school safety guidelines or manuals and circulars about children safety at school but there were still injuries occurs in schools as reported by local newspapers and media electronic about injuries and death among the school children past years.

This shows that they were something still lacking in management of safety control and prevention in primary schools. Those guidelines or circulars did not specify any details on types of safety sign boards and examples of control measure should be carried out after identifying hazards in schools. It was also not mentioned about safety lines and vehicles parking lots for school teachers and staffs.

Furthermore, there is a need for schools to be aware of the existence and importance of the Occupational Safety and Health Act 1994 and its application to schools and educational institutions in the interest of safety and health. Study had shown that about 92.3% of the school headmasters (employers) lack of knowledge about OSHA 1994, while 86.5% of primary schools did not have provision of OSHA 1994 copies in the school (Nurul et al. 2009). Section 15(1) of OSHA 1994 clearly stated that it is to be the duty of every employer (headmaster, education department director) as far as it is practicable to ensure the safety, health and welfare of employees (teachers). While Section 17, included all the other person in the workplace (students and visitors) to be protected from risk of safety and health. Therefore, the primary school headmaster as the employer is committed to safety, health and welfare of teachers, pupils (students), staffs and visitors in the school.

A part of employer duties mentioned above, the employer also have to make sure the safety and health of the other person at their working place (students and visitors) by maintaining the place of work (schools) and prevent the risks that may arise from using of substances by using necessary control measures (Section 18, OSHA 1994). Regarding the maintenance and providing facilities, the employer (school headmaster) can get Parent and Teacher Association helps. This was stated in Regulation 5(1) of Parent and Teacher Association Regulation 1998.

Ministry of Education (MOE) Malaysia had given concern on safety issues in schools. Therefore they came out with Education Act, 1996 which also focused on safety aspect in schools. Furthermore, few circulars also were directed to schools to ensure health and safety of children during physical educations (MOE Circular 1/1995, MOE Circular 6/1998), children disciplines (MOE Circular 7/2011) and management of children safety at school (MOE Circular 8/2011) which emphasis roles of School Parent and Teacher Society to increase children safety. A part of that, School Concept and Safety Manual (2002) was implemented for the sake of children safety and health.

The objective of this study is to assess the implementation and practices of occupational safety and

health programs in primary schools at LMS district, Perak, West Malaysia.

II. METHODOLOGY

Larut, Matang and Selama (LMS) district was selected randomly from nine districts in Perak state. List of primary schools were obtained from the Education Office of Perak state (Perak State Education Department (JPNP), 2014). All the 111 schools in LMS district were approached to participate in this study. The school safety coordinators (teachers) were the respondent of this study. Quantitative method was used to collect data from the schools. The respondent answered the self-administered structured questionnaires form about the safety knowledge, practices and implementation in the school. The questions were prepared (adapted) based from previous studies on occupational health and safety surveys (Professional Training Services (PTS) (2011), Safety Culture Survey Questionnaire (2013), studies from Nurul et al., 2009 and Pisaniello et al., 2013. An appropriate modification was made on questions to suit the objectives and the content of this research. To ensure the reliability and comprehensibility

of the questionnaire, a pre-test was done at six primary school's safety coordinators from another districts. To further improve the questionnaires, a discussion was done with those safety coordinator teachers and research supervisors. The study was approved by the Ministry of Education and Human Research Ethics Committee, University Putra Malaysia. Before data collection, an informed consent was obtained from the respondents. All the collected data was analyzed using SPSS version 21 software. Descriptive analysis was used to describe the occupational safety practices and implementation in schools.

III. RESULTS

A. Knowledge on Occupational Safety and Health

102 safety coordinators (91.9%) responded whom 49% males and 51% females. Majority of the respondents was Malay ethnic group, 59.8% and the least Indian ethnic group, 15.7%. Most of the respondents have been teaching for more than 10 years (82.4%) in schools with a mean of working experience 21.42 ± 8.67 years.

Variables	No. (%) N=102	Mean \pm SD
Gender:		-
Male	50 (49)	
Female	52 (51)	
Race:		-
Malay	61 (59.8)	
Chinese	25 (24.5)	
Indian	16 (15.7)	
Education level:		-
Master	2 (2.0)	
Degree	34 (33.3)	
Diploma in education	57 (55.9)	
Certificate in education	9 (8.8)	
Teacher's position in school:		-
School head	14 (13.7)	
Senior assistant teacher	67 (65.7)	
Academic teacher	19 (18.6)	
School counseling teacher	2 (2.0)	
Teaching experience:		21.42 ± 8.67
Less than 10 years	18 (17.6)	
11-20 years	27 (26.5)	
21-30 years	39 (38.2)	
More than 30 years	18 (17.6)	

Table 1: Socio-demography data of respondent

Knowledge about OSHA and DOSH (Department of Occupational Safety and Health, Malaysia) was very shallow with 75.5% of teachers never heard about Occupational Safety and Health Act (OSHA) while 69.6% never heard about acronym DOSH which stands for Department of Occupational Safety and Health. It is nice to hear that 88.2% of the schools have safety policy but it was not displayed anywhere in the school wall (table 2).

Variable	Yes (N=102)	No
Heard about OSHA	25 (24.5)	77 (75.5)
Knew the term OSHA	15 (14.7)	87 (85.3)
Heard about DOSH	31 (30.4)	71 (69.6)
Knew the term DOSH	24 (23.5)	78 (76.5)

Have school safety policy	90 (88.2)	12 (11.8)
Displayed the school safety policy	0 (0.0)	90 (88.2)
Attended safety courses	20 (19.6)	82 (80.4)
Trained First Aider	24 (23.5)	78 (76.5)

Table 2: Knowledge on OSH

It is sad to hear that majority of the safety coordinators did not attend any safety courses (80.4%) for past years. Only 20 respondents (19.6%) attended safety courses which was about general safety, road safety, fire drill and school safety. Every school should have well trained first aider, but only 24 (23.5%) schools had trained first aider while 76.5% schools did not.

Variable	Yes (%) (N=102)	No
Has school safety coordinators	102 (100.0)	0 (0.0)
School safety coordinators position in rotation:		
Yearly	40 (39.2)	
Two years once	29 (28.4)	
Three years once	24 (23.5)	
More than four years once	9 (8.8)	

Table 3: School safety coordinators position in rotation

Implementation of safety programmes also interrupted when the safety coordinators position was rotated every year (39.2%) or two years (28.4%) once (table 3). Rotation of the teachers as a safety coordinator had some negative impact on school safety management. The new teacher whom take over the position, have to learn back everything about school safety management.

B. Occupational Safety and Health Implementation

Most of the school safety coordinators (97.1%) brief their pupils about safety at school during school assembly only. Some schools (70.6%) also had safety campaigns on road safety, fire safety and smoking. Half of the schools (52%)

did not make any safety leaflet to parents and pupils. Most of the information about school safety was displayed at school notice board (80.4%). The information displayed is more about school safety committee organisation chart, school safety programs, road safety and school safety activities photos. None of the schools displayed about hazards in school and physical safety. 72 (70.6%) schools responded that they did school safety campaign, but the campaign was more focusing on road safety, fire safety and prevention of crimes. All the schools did fire drills exercise at least once a year (table 4).

Variable	Yes (N=102)	No
School safety info displayed	82 (80.4)	20 (19.6)
School safety leaflet to parents and pupils	49 (48.0)	53 (52.0)
Safety briefing in school assembly	99 (97.1)	3 (2.9)
School safety campaign	72 (70.6)	30 (29.4)
School fire drill exercise	102 (100.0)	0 (0.0)

Table 4: Occupational Safety programmes and information sharing

All the schools have good emergency system for fire but not for other emergencies like natural disaster (flood, earth quake, landslides) and building collapse. So, none of the schools are doing drilling on other emergencies. Table 4 shows all the schools had fire drill practices at least once a year. Only one school did not have fire extinguisher. They also have good emergency response plan (ERP) (99%) and

displayed it in every room (99%). The schools with fire extinguisher did maintenance on fire extinguisher every year (94.1%). Although majority of the school have fire extinguishers, but they don't know how to use it (62.7%). Another sad thing is majority of the schools did not have emergency exits signs (86.4%).

Variable	Yes (N=102)	No
Have fire extinguisher	101 (99.0)	1 (1.0)
Maintenance of fire extinguisher	96 (94.1)	6 (5.9)
Enough fire extinguisher	92 (90.2)	10 (9.8)
Knew how to use fire extinguisher	38 (37.3)	64 (62.7)
Emergency exit signage displayed	15 (13.6)	95 (86.4)
Have emergency phone numbers	72 (70.6)	30 (29.4)
Have ERP fire exit plan	101 (99.0)	1 (1.0)
Fire ERP displayed in every room	101 (99.0)	1 (1.0)

Table 5: Fire safety information

Not all the schools are reporting accident to authorities (34.3%). Majority of the schools only reported accident that caused injuries to hospitals or clinics (39.2%) for treatment purpose. Table 6 shows only 30.4% of schools keep accident record of pupils while 12.7% of schools keep record of accident for staff.

Variable	Yes (N=102)	No
Report accident to authorities	67 (65.7)	35 (34.3)
Report accident to:		
Hospital or clinics	40 (39.2)	
District Education Office (DEO)	1 (1.0)	
Hospital and police	7 (6.9)	
Hospital and DEO	16 (15.7)	
Hospital, police and DEO	3 (2.9)	
Keep accident record of pupils	31 (30.4)	71 (69.6)
Keep accident record of staff	13 (12.7)	89 (87.3)

Table 6: Accident report and records

Variable	Yes (N=102)	No
PPE provided	52 (51.0)	50 (49.0)
Type of PPE provided:		
Apron	4 (3.9)	
Latex glove	0 (0)	
Simple face mask	11 (10.8)	
Latex glove and simple face mask	15 (14.7)	
Apron, latex glove and simple face mask	22 (21.6)	

Table 7: Personnel protective equipment (PPE)

49% of the schools do not have any personnel protective equipment while 52 (51%) schools providing at least one of the PPE's for pupils when doing practical work in the science lab or at skill work classroom. Only 22 schools (21.6%) provided all four essential PPE's (apron, latex glove, simple face mask and goggles) for their pupils.

IV. DISCUSSION

According to Occupational safety and Health Act (OSHA 1994), schools viewed as a workplace (Lee, 2011). Section 15(1) of OSHA, 1994 stated that it is employer's responsibility to ensure employees health and safety as far as practical means. At the same time, all the employees should take care their own health and safety (section 24(1), OSHA, 1994). In primary schools, the headmaster acts as the employer and the teachers and staff as the employees. Even though the act was enforced for the past 22 years by DOSH, unfortunately, majority of teachers never heard about Occupational Safety and Health Act (OSHA) and acronym DOSH which stands for Department of Occupational Safety and Health. This shows that the teachers are lack of awareness on OSHA which leads to poor OSH implementation in primary schools. The same resulted in Nurul *et al*, 2009 study on OSHA knowledge among primary schools head whereby only 7.7% of them knew about it. Furthermore, good safety and health management will increase school's morale and reputation and comply with OSH act 1994 (RoSPA, 2012, Safe School Concept and Manual,2002; Norlia *et al.*, 2006; OSH in School,2008).

Occupational safety policy is a written statement on safety and health committed by the employer (section 16,

OSHA, 1994) to ensure health and safety of the employee are taken care. Majority of schools have safety policy. It shows that the school heads in LMS district were committed in taking care of the pupils, teachers and staff safety and health matters. However, these schools failed to display the safety and health policy anyway around their school area. These will affect safety and health practices and promotion among the school community.

It is sad to hear that majority of the safety coordinators did not attend any safety courses (80.4%) for past years. As a result, many safety coordinators lack of knowledge in implementing safety programmes as it should be. The same thing suggested by Norlia *et al.*, 2006 in her study that all the school should have talks or courses on school safety (legislation, school safety policy and education department safety policy). Rotich *et al.*, 2015 study also concluded that training played major roles and it is a fundamental in implementation of OSH programmes.

Every school should have well trained first aider but only 24 (23.5%) respondents attended first aid course. Primary schools pupils are active physically and vulnerable to diseases and injuries. Every schools should have at least one qualified first aider to help reduced complication of injuries and save their life. It supported by Masih *et al.*, 2014 that teachers with first aid knowledge and skills able to reduce complication of injuries and save life. Furthermore, first aid is an important component in disaster management in schools. Any disasters that can caused injuries, the trained teachers (first aider) and the school safety coordinators will be the first responder in action. They also play the main role in mitigating hazards in schools (Ganpatrao, *et al.*, 2014).

Malaysia Ministry of Education had come out with several circulars and manual on health and safety of school students. Every school in Malaysia must have school health care committee and safety committee (MOE Circular No. 4/2002, 2002). The schools should organise several programmes to ensure the health and safety of the students are taken care. Most of the schools safety coordinators brief their pupils about general safety once a week and did safety campaigns on road safety and fire safety. But these not enough, as said by Lee (2011), training and information on OSH are the main elements that the pupils, teachers and staff should know and able to handle the risk at schools. To promote safety in the school, most of the safety information were displayed at school notice board only. The information displayed is more about school safety committee organisation chart, school safety programs, road safety and school safety activities photos. None of the schools displayed about hazards in school and physical safety. School safety campaign was more focusing road safety, fire safety and prevention of crimes only. Every schools should have multiple types of school safety programmes to achieve successful and sustainable improvements in school safety. It also will improve mental health and academic of the pupils (Coven, 2013). He also stated that effective school safety programmes cannot be achieved just with a single programme.

Rotation of the teachers as a safety coordinator had some negative impact on school safety management. The new teacher whom take over the position, have to learn back everything about school safety management. The position of school safety coordinator should be managed by one teacher without rotation. For example, in Spain, all the schools have Occupational Risk Prevention coordinator which was held by a teacher (Anna et al., 2012). She also suggested (Anna et al., 2012) that teachers should be trained on prevention, safety and health in the initial teacher's training. Furthermore, courses on school safety are very rare conducted by relevant departments. Attending training or courses will increase the knowledge on handling school safety management efficiently. Teachers also should gain knowledge and skills on handling crisis situation (fire, earthquakes and flood) and how to rescue, evacuate and give first aid (Nekoei et. al., 2012). Burden of school safety programmes and implementations shouldn't be on shoulder of school safety coordinators only, it should be collaborative, dedication and commitment of all the school teachers and staffs and also relevant community members (Coven, 2013).

All the schools have good emergency system for fire but not for other emergencies like natural disaster (flood, earth quake and landslides). Even though every schools have Emergency Response Plan for fire safety and good maintenance of fire extinguishers, but have poor fire safety signage (including emergency exit signage and emergency assembly area signage). Even though some schools have emergency exit signage but it does not follow the standard of emergency exit signage as given in MS2558:2014 and ISO 3864-1: 2011. Schools should have emergency exits signage for pupils to move smoothly during real situation or fire drill to the emergency assembly area. Another sad part

was majority of respondents (school safety coordinators) don't know how to use fire extinguishers. School safety coordinators should be the role model and teach others how use the fire extinguisher and establish good fire safety signage. Emergency exits signage is compulsory to be put up in all the schools (MOE School Secular No.8/1978: Fire drill guide for schools. The presence of fire safety signage and assembly area location marking is one of key factor in finding the way to exit from a building during fire (Kobes et al., 2010). Furthermore, schools that have science laboratory and skill classroom, have flammable chemicals (ethanol, thinner, aerosol spray paint) and burner which can cause fire.

According to Safe School Concept and Manual (2002), all the accidents that happen inside and outside schools must report to school administrative and the record of accident should be documented. Only serious injuries referred to the hospital and report to police for insurance claim. Schools should keep record of the accidents even though it is minor injury. It will be very helpful to take future prevention and control measures to reduce injuries among the pupils and staff.

Pupils should be provided with suitable PPE to protect them from chemical exposure, chemical splashes and from flying objects or particles during their activities in science lab or skill room. Number of injuries increased among the students when not using PPE and decreased when using PPE (Apostolico et al., 2016). More injuries happen when not using PPE among the students grade 9 to 12 (Shendell et al., 2010).

V. CONCLUSION

As a conclusion, this study reveals the implementation of occupational safety in the primary schools in LMS district, Perak, Malaysia. Occupational safety programmes and implementation are considered shallow. Safety coordinators lack of knowledge on occupational safety legislation and other safety aspects due to less course attended and frequent job rotation. It caused problems such as not many safety programmes were implemented and poor in record keeping of injuries. Further study needs to be done on pupil's knowledge and awareness on safety at schools.

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