

Abstract

Introduction

A chemical disaster is defined as an unintentional release or spill of toxic or hazardous chemical that results in an abrupt and serious disruption towards the functions of a society, which may cause immense damage to human health, material or environmental losses that exceed the ability of the affected society to cope using only its own resources. The Navy actively participate in the prevention of chemical disasters in Sri Lanka. Sri Lankan navy seaman sailors play a vital role not only in rescue operations as first responders but also in preparedness as well in planning to prevent chemical disasters.

Objectives

The aim of this study is to provide an insight into the disaster preparedness regarding chemical disasters among navy sailors in the seaman branch at Welisara Naval complex, Gemunu base, to recommend suitable improvements.

Methods

A descriptive research method was used for conducting the research. A purposive sample was selected. The sampling frame was based on the Naval register maintained at the Gemunu Naval base. Since there were no previous studies of this topic done in Sri Lanka, the estimated prevalence of knowledge of disaster preparedness of seaman Sailors was considered as 50%. Therefore, the final sample size was 422. Self-administered questionnaires were used. Knowledge regarding hazardous chemicals, knowledge regarding decontamination, knowledge on protection and preparedness were included in the questionnaire.

Results

In the study findings, it was revealed that knowledge regarding hazardous chemicals was low. Considering the association of demographics on total knowledge score, males had a perfect total knowledge score compared to females. With regards to the period of work in the current naval base, those who are there for less than ≤ 1 year and those who are there $> 5 - \leq 10$ years (about 70% of them) had a better total knowledge score compared to others. Moreover, those who were recruited recently \leq

5 years had a better total knowledge score compared to others. Finally, with regards to total knowledge score and age, the members in the age groups 31 -35 years and 36 – 40 years had a better total knowledge score.

Considering the association of demographics on preparedness, those who are aged 41-45 years had better preparedness scores compared to others. Furthermore, similar to the knowledge score, the males had a better preparedness score compared to females. Further, the preparedness score did not change that much with the period of work in the present naval base or the total period of work in the Navy.

Conclusions

It was revealed in our study that knowledge regarding hazardous chemicals in the study sample was low. However, primary knowledge on chemicals and their detection, knowledge on decontamination, knowledge on protection and knowledge on pre-hospital management were high. The overall preparedness of the sailors was also low.

Recommendations

The recommendations can be categorized into recruitment, training and on the job activities. Considering the recruitment, initial tests or selection tests can be held to check the knowledge on chemical disasters and preparedness of the sailors. Furthermore, in the training program, workshops can be held for giving knowledge on chemical disasters and demos and rehearsals that can be arranged to provide them with a good experience. Moreover, during the working period, regular updates on knowledge should be provided.

Keywords: chemical disaster, preparedness, navy sailors