



Original Article

Effectuality of Cleaning Workers' Training and Cleaning Enterprises' Chemical Health Hazard Risk Profiling



Abdulqadir M. Suleiman^{1,*}, Kristin V.H. Svendsen²

¹ Norwegian Labor Inspection Authority, Oslo, Norway

² Norwegian University of Science and Technology, Institute of Industrial Economics and Technology Management, Faculty of Social Sciences and Technology Management, Trondheim, Norway

ARTICLE INFO

Article history:

Received 11 December 2014

Received in revised form

17 September 2015

Accepted 19 October 2015

Available online 31 October 2015

Keywords:

cleaning enterprises

hazards ranking

risk index

risk level

workers' training

ABSTRACT

Background: Goal-oriented communication of risk of hazards is necessary in order to reduce risk of workers' exposure to chemicals. Adequate training of workers and enterprise priority setting are essential elements. Cleaning enterprises have many challenges and the existing paradigms influence the risk levels of these enterprises.

Methods: Information on organization and enterprises' prioritization in training programs was gathered from cleaning enterprises. A measure of enterprises' conceptual level of importance of chemical health hazards and a model for working out the risk index (RI) indicating enterprises' conceptual risk level was established and used to categorize the enterprises.

Results: In 72.3% of cases, training takes place concurrently with task performances and in 67.4% experienced workers conduct the trainings. There is disparity between employers' opinion on competence level of the workers and reality. Lower conceptual level of importance was observed for cleaning enterprises of different sizes compared with regional safety delegates and occupational hygienists. Risk index values show no difference in risk level between small and large enterprises.

Conclusion: Training of cleaning workers lacks the prerequisite for suitability and effectiveness to counter risks of chemical health hazards. There is dereliction of duty by management in the sector resulting in a lack of competence among the cleaning workers. Instituting acceptable easily attainable safety competence level for cleaners will conduce to risk reduction, and enforcement of attainment of the competence level would be a positive step.

Copyright © 2015, Occupational Safety and Health Research Institute. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

The cleaning service industry is a major end-user of chemicals. It is estimated that an average cleaning worker uses approximately 110 kg of hazardous chemicals annually [1]. Although use of dry methods has increased in recent times, large quantities of chemicals are still used. The Norwegian Product Register (the central register for chemicals in Norway) showed that in 2012, about 270,000 tons of cleaning chemicals were registered. This amount includes chemicals other than biocides, classified in one or more hazard class.

Generally, cleaning workers have the highest incidence of contact dermatitis [2,3], and have an increased risk of asthma and

rhinitis [4]. It is becoming evident that cleaning products are the cause of up to 12% of reported asthma cases in several countries across Europe [5]. It is therefore important that cleaning workers receive appropriate and proper knowledge on chemicals safety. Employers are required to ensure that their employees are familiar with the risk of chemical hazards and safety in relation to their work [6]. It is suggested that training of cleaning workers should, in minimum, include a general theoretic introduction [7], workplace instruction, basics on quality of work, chemicals, and ergonomics. It has been recommended that new employees be trained especially in the correct use of chemicals and safety data sheets [8].

There have been attempts in Norway to develop cleaning work into a skilled trade by introducing vocational certificates and

* Corresponding author. Norwegian Labor Inspection Authority, Stenersgata 1D, Oslo 0050, Norway.

E-mail address: ams@arbeidstilsynet.no (A.M. Suleiman).

certificates of apprenticeship programs by training cleaning workers through joint sectorial training programs [9]. There were, however, doubts on their usefulness, and their implementation was ineffective due to the lack of enthusiasm and motivation among stakeholders [9]. Both employers and employees' representatives opined that the training programs were expensive and achieved very little in terms of progression of the workers [9]. Cleaners need specially designed training programs in order to have a reasonable contingency for advancement [10]. It is, however, reported that in a program to encourage cleaners to take up training entitling one to a proficiency certificate, only 0.6% of the cleaners took part [10].

In Norway, a training program, which on successful completion of theory and a 5-year practice period, leads to an award of certificate of apprenticeship costs approximately US\$4,000/€3,000 [11]. The cost and the perception on the lack of usefulness and benefits of the training demotivated cleaners from taking up such training. Employers in the sector avoid asking for a certificate of apprenticeship as a requirement for employment and instead opt for in-house training. This raises a problem as few supervisors/managers in the sector have taken the law-required health and safety training [12].

Trygstad et al [9] reported an estimated 41,000 cleaning workers in Norway, and in some instances ~90% of cleaners are of other backgrounds than Norwegian, have a low level of education [13] where ~75% have primary education or less [9]. Despite a law provision requiring that nonNorwegian speakers be provided with information in the language they understand [6], inspections of cleaning enterprises confirm that this is not the case. This emphasizes the need for proper and effective training.

The purpose of this study was thus: (1) to determine how training of workers in the cleaning service sector is organized and to elaborate on the relative importance given to chemical health hazards in the training; (2) to evaluate the suitability and effectiveness of training offered to cleaning workers as a tool for chemical health hazard communication; and (3) to map and compare the relative level of risk of exposure to hazardous chemicals among cleaning workers in different enterprises.

2. Materials and methods

SurveyMonkey version 2 (https://www.surveymonkey.com/?ut_source=header) electronic questionnaire was distributed to cleaning enterprises across the country registered as approved according to the approval ordinance of the Norwegian Labor Inspection Authority (NLIA) by October 2013. The approval is a requirement for all enterprises offering cleaning services [14]. Similarly, the questionnaire was sent to municipal entities anticipated to have in-house cleaning personnel making about 20% of those invited. The rest were all private enterprises. The questionnaire was sent as a web-link through the enterprises' business email addresses listed in different sources. About 15 enterprises received a paper version of the questionnaire during visits by regional safety delegates (RSD). No additional efforts were made to reach other enterprises other than the above mentioned.

The questionnaire included questions on demographics, organization of cleaning workers' training, and priorities of training themes considered relevant to such trainings. Also asked was the number of cleaning workers employed and the average age interval of these workers, permanent/temporary employment or employment on a need-basis, type of cleaning task performed, whether a member of a sector or employers' organization, and Norwegian language competence of the workers.

The electronic distribution of the questionnaire minimized chances of repeated response from the same enterprise.

Twelve themes considered relevant in a training program for cleaning workers were presented in the questionnaire. Supervisors/holders of the enterprises ranked the themes according to how they would prioritize them in their training programs, based on their own consideration of the theme's importance. This part of the questionnaire was also answered by the RSDs ($n = 8$) and NLIA occupational hygienists (OH; $n = 15$) based on their experiences and own assessment. Results obtained from RSDs and OHs, representing state institutions responsible for information and enforcement in the sector, were compared with the outcome from the cleaning enterprises.

In ranking the themes, the most important theme was ranked as 1, labeled as $S_R = 1$, while the least important was ranked 12 ($S_R = 12$). The ranking would thus be sequential from the most to the least important theme. The themes were placed in three main categories as listed below:

Category 1: Enterprise related. (1) Correct job performance to satisfy customers' requirements and needs (work ethics); (2) Dutifulness, orderliness, effectiveness in job performance (job performance); (3) Setting positive attitude that one is doing important work for the community (workers' attitude); and (4) Customer relation and marketing of the enterprise (customers relation).

Category 2: Regulatory requirements. (1) Possession of identification card for cleaners as requirement of NLIA (identification card); (2) Information on occupational health services and their role (occupational health services); (3) Source of information on chemicals, health, and existing regulation (information sources); and (4) Ergonomic factors to prevent physical injuries (ergonomics). Note: Ergonomics is important for cleaning workers and is here included in this group to balance the groups.

Category 3: Chemicals health hazards prevention. (1) Chemical health hazards and the risk posed by cleaning products (health hazards); (2) Correct, purposeful handling of chemicals (handling chemicals); (3) Properties of the cleaning chemicals (properties of chemicals); and (4) Safety data sheets/other information sheets and their contents (safety data sheets).

A conceptual level of importance (CLI) based on the ranking of the themes was established according to the ranges of summed S_R ($\sum S_R$), as shown in Table 1.

In order to attain the high CLI for chemical health hazard prevention, all the items in category 3 (cat.3) have to be ranked in the first four positions to give $\sum S_R = 10$; for low CLI, the items have to be in the lowest ranking, $26 < \sum S_R$. Medium level is, thus, defined in the range $10 < \sum S_R \leq 26$.

Table 1
 $\sum S_R$ ranges and the conceptual level of importance based on ranking of the given themes

Sum of rank of the items	Conceptual level of importance	Envisaged position from the conceptual importance level
$\sum S_R = 10$	High	High priority given to all elements in same category. Expectedly, the themes would feature predominantly in workers' training
$10 < \sum S_R \leq 26$	Medium	Considered important & would feature in a training program, but less predominantly as those in the high level
$26 < \sum S_R$	Low	Considered less important, & may not be included in a training program at all

Download English Version:

<https://daneshyari.com/en/article/1092108>

Download Persian Version:

<https://daneshyari.com/article/1092108>

[Daneshyari.com](https://daneshyari.com)