

- Most of the registered work accidents were between male workers
- (96.74%) and mostly the middle age group 15–29 years (49.545%), 30–44 years (36.81%).
- (76.42%) of these registered work accidents happened to workers in the private sector of the work.
- And (81.1%) happened in the work place, while 18.9% were commuting accidents.
- (67.18%) of these accidents happened during the morning work shifts.
- The machines and instruments caused (30.93%) of the registered work accidents, and (21.97%) were because of falls.
- (18.43%) affected the workers heads, (18.16%) affected left upper limbs and (17.42%) affected right upper limb.
- 2014 registered work accidents caused wounds to the injured workers, 1135 caused bruises and scratches, and 601 work accident fractures to the affected workers.
- The total numbers of workers deaths registered because of work accidents for year 2016 was 17 deaths.
- (41.18%) 10 of them happened to workers working in the governmental (public) sector, (39.82%) 7 in the private sector.
- 6 deaths registered in Diyala governorate, 5 in AL- Diwaniya, 4 in the AL- Basrah and 2 in AL- Najaf governorate.
- (47.05%) 8 were because of terrorist works, (23.52%) 4 because of electric shock, also (23.52%) 4 because of lifting transport media, and (5.88%) one death case was because of exposure to chemicals.

#### Recommendation

- It is a must that a National law for Occupational Injuries is implemented in the country.

### 22 MANAGING JOB STRESS TO PREVENT NEEDLESTICK INJURIES IN EMERGENCY DEPARTMENTS: RESULTS OF AN ITALIAN MULTI-CENTRE STUDY

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**Introduction** The prevention of needlestick injuries (NSIs) represents a challenge to safety and health of healthcare workers (HCWs) employed in Emergency Departments (EDs), globally. Although, by literature, the use of Safety Engineered Devices by HCWs represents an effective way to prevent NSIs, organisational interventions targeted to decrease job stress have been suggested effective in minimising the occurrence of NSIs. The purposes of the present multi-centre study were:

- to investigate the relationship between interventions focusing job stress and NSIs occurrence among nurses employed in Hospital EDs;
- to quantify the economic impact of such interventions on the safety budget.

**Methods** The authors compared the NSIs occurrence among nurses employed in three Hospital EDs in two 4 year periods, after and before organisational interventions aimed to manage job stress, respectively. Finally, the economic cost of NSIs occurrence was calculated. All analyses were performed using SPSS software for Windows.

**Results** The cumulative 4 year incidence of NSIs occurred after organisational interventions focusing job stress was significantly lower than the cumulative 4 year incidence observed prior to such interventions ( $p < 0,05$ ). By results, significant cost saving from managing fewer NSIs than the previous period was found.

**Discussion** In the present study, organisational interventions aimed at managing job stress revealed effective in preventing NSIs and, consequently, in decreasing the economic cost due to NSI occurrence. Furthermore, the authors demonstrated that a proactive, integrated and comprehensive management of job stress brings benefits to employees and reduces the burden of the NSIs occurrence. These findings highlight that the issues of job stress and workers' safety are interconnected and hence, a special effort is required in order to minimise job stress with the aim to reach the goal of safe, health and productive workplaces in healthcare sector.

### 280 DEVELOPING A DESIGN AND IMPLEMENTATION METHODOLOGY OF A LEAN AND SAFE MAINTENANCE DEPARTMENT

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**Introduction** Most maintenance departments are implemented and improved as a result of the company's growth. Subsequently, if the company chooses to adopt a Lean approach, it will adapt its production operations according to the specific principles and tools of that approach. Finally, once the production is Lean adapted, the company will reorganise its maintenance department to meet the principles of the Lean approach. On the other hand, what if a company already operates according to the Lean production approach before the creation of a maintenance department? The aim of this project is to develop a design and implementation model of a Lean-type maintenance department focused on occupational health and safety (OHS).

**Methods** As a first step, the approach was to establish a profile of the current situation of the company regarding the three key concepts of this study: Lean, OHS and maintenance. Some data collected are the testimonials of the company's employees about these concepts. Participants went through semi-directed interviews. In addition, the employees performing maintenance tasks on equipment (operators performing basic routine maintenance and the others performing more advanced maintenance) were also observed in these maintenance tasks.

**Result** The results are a profile of the industrial partner drawn up according to a study of the frequency of the participants' answers as well as the risk observation tables analysed according to a model developed by *Institut de recherche Robert-Sauvé en santé et sécurité du travail*. The implementation model was developed according to the results obtained.

**Discussion** This case study focuses mainly on a small and medium-sized enterprise (SME) in growth, as it corresponds to their background. Moreover, since not all SME's can afford nor have the knowledge for such studies, this model will be a good starting point for similar firms and companies.