Results Five hundred and twenty-seven participants were enrolled in the study with a mean age of 28.86 years and extremes ranging from 19 to 55 years. Prevalence of UL-MSDs in the study population was 10.6%. The univariate analysis showed that UL-MSDs in army officers were significantly associated with: age (p<10^-3), job seniority (p=0.009), weekly worked hours (p=0.007), wearing a helmet (p=0.039) and job strain (p<10^-3). According to the multivariate analysis, determinants of the risk of UL-MSDs in the study population were: history of upper limbs trauma (p=0.002, OR=3.1; CI 95% = [1.49; 6.44]), age (p= 0.001; OR=1.89; CI 95% = [1.30; 2.73]), occupational category (p=0.047; OR= 0.78; CI 95% = [0.62; 0.99]) and irregular working hours (p=0.008; OR=2.99; CI 95% = [1.32; 6.75]).

Conclusion Prevention of UL-MSDs in army officers represents major challenges for military health professionals. Keeping a good operational capacity of military personnel is dependent on the establishment of an effective global preventive approach that covers the various aspects of the work in this environment, while respecting its particularities.

P-244 FROM COMMERCIAL FISHERMEN TO RECREATIONAL BOATERS: FATALITIES AND LIFEJACKET USE INFORM THE NEED TO PROMOTE USE.

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Objective Vessel disasters and falls overboard result in fatalities in the commercial fishing industry and recreational boating. We reviewed available fatality surveillance data to identify opportunities to promote lifejacket use in the US Pacific Northwest.

Methods Commercial fishing fatality information for 2000–2018 was obtained for all fatalities in Oregon and Washington waters from the Commercial Fishing Incident Database (CFID). Recreational boater fatality information was obtained from the Oregon and Washington State Marine Boards’ publicly available information. Summary statistics were compiled and lifejacket policies reviewed for both occupational and recreational uses.

Results In Between 2000–2018 In Washington and Oregon there were 90 commercial fishing fatalities; only 5 (6%) victims were wearing a lifejacket, with 3 of those not properly worn. From 2000–2018 in Oregon there were 263 recreational boating fatalities with 76 (29%) victims wearing a lifejacket. In Washington, available data was limited from 2011–2017, there were 52 recreational boating fatalities with no lifejacket information. Commercial fishermen and recreational boaters over the age of 12 years are not required to wear lifejackets while boating, although Coast Guard-approved devices must be provided for each person onboard. Lifejacket use marketing promotions exist such as the ‘Live to be Salty’ campaign for commercial fishermen and ‘Life Jackets and Seat Belts-It’s Your Choice’ for recreational boaters.

Conclusion The percent difference in lifejacket use between commercial fishermen and recreational boaters who suffered a fatality likely represents differences in the precipitating factors in the incidents, and the ease of wear for tasks. Primary prevention of vessel disasters and falls overboard is critical; as lifejackets are essential in the event of an emergency. A regional intervention based on a successful program for lobstermen is proposed to bring lifejacket education, try-before-you-buy and discounts to commercial fishermen and recreational boaters that will be evaluated for impact and change of culture.

P-245 IMPACT OF FOOD ON DIVE’S SAFETY

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Introduction Professional diving is an activity that exposes the diver’s body to numerous environmental and physiological challenges. These require adequate physical and mental health conditions as a prerequisite for the task’s safe performance. The diver’s diet is an underestimated risk factor that has not been properly studied so far. Thus, due to lack of dietary recommendations, many times divers make basic dietary mistakes that can lead to undesirable outcomes, from abdominal discomfort to death by drowning.

Objective To determine how food and physiological changes due to immersion and hyperbaric exposure can interfere with diving safety.

Methods Literature review

Results Food-related factors can lead to life-threatening risk conditions, since situations that would normally be considered just inconvenient and uncomfortable can be potentially fatal when they occur underwater, such as vomiting, for example. Especially considering the diet specific factors: volume of the food, nutritional composition of the diet, and the time interval between the last meal and the dive, the food can be a hazard associated with risks that can compromise the safety in the dive. These risks can be divided into direct - such as hypoglycemia, dehydration, gastrointestinal barotraumas (mainly resulting from aerophagia and gastrointestinal producing conditions), and regurgitation with vomiting or bronchospiration - and indirect - such as increased cardiac risk and increased decompression stress (which could lead to decompression sickness despite the correct application of the decompression tables).

Conclusion Healthy eating is a fundamental part of ensuring a healthy lifestyle. Given the particularities imposed by immersion and hyperbaric exposure, the diver’s diet should be considered an important aspect in promoting health and diving safety. Awareness of the risks and knowledge of measures to increase the safety of diving can lead to beneficial changes in habits and, consequently, in the safety of diving operations.

P-246 ‘HEALTH AND WORKING CONDITIONS OF WASTE PICKERS: SCOPING REVIEW.’

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Introduction It is estimated that between 15 to 20 million people in the world recover materials from waste in an informal condition. Many living in poverty, become involved in the activity because they do not have an accessible job opportunity. This need leads them to be exposed to unhealthy,
dangerous environments, with a high risk of injury due to the lack of control measures in risk factors.

**Objective** To describe the health and working conditions of waste pickers worldwide, through a review of scientific articles published between the years 1999 to 2019.

**Methods** A scoping review was carried out, where scientific articles were identified by manual bibliographic search in PubMed, Taylor and Francis, ScienceDirect and SAGE. The Mendeley bibliographic manager was used to refine the articles. The review of the records was based on: type of document, reading of titles, abstracts, methodology and results. Inclusion and exclusion criteria were taken into account for the selection of articles.

**Results** Eight-eight studies were included that met the inclusion criteria. Most of the studies analyzed used a qualitative approach, where questionnaires, interviews and focus groups were applied. Waste pickers’ working conditions were mainly associated with situations present in the work environment, non-working conditions are largely associated with their economic, family and interpersonal relationships. The individual conditions with the highest incidence are associated with gender, age and education. The health conditions are related to the physical capacity of the waste picker to carry out the work, the consumption of tobacco and other substances and the prevalence of some diseases such as tuberculosis and skin rashes.

**Conclusion** It is important to expose to the academic and governmental community the problems that waste pickers face in the development of their work in order to establish tools to improve the health and working conditions of this vulnerable population.

**P-247 WORK-RELATED DISEASES AND INJURIES AMONG CULTIVATED AGRICULTURISTS IN THAILAND**

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**Objective** This cross-sectional analytic study aimed to investigate the situation of work-related diseases and injuries among cultivated agriculturists in the upper northeast of Thailand. The case study of Udon-Thani and Roi-Et provinces is representative of the upper Northeast region of Thailand.

**Methods** Cases of work-related diseases reported from the health database (HDC) in 2014–2016 among farmers by occupation code were used for analysis. The number of registered farmers from the agricultural office of Thailand and the secondary data in 43 files of occupational diseases from the provincial public health office were collected from 2014 to 2016. The annual morbidity rate of occupational diseases was analyzed and presented in the rate per 100,000 registered farmers.

**Results** Chronic lung diseases were the first ranking of disease recorded in HDC among visited farmers for health care in the northeast of Thailand. The following rate of diseases in orders were work-related musculoskeletal disorders (WMSDs), noise and heat-related diseases, and pesticide toxicity, respectively. Occupational injuries were as high as the WMSDs. The morbidity rate of Udon-Thani was higher compared to Roi-Et province, and closer to the national rate. The morbidity rates were increasing every year during 2014–2016 which, in 2016, were 479.1, 207.7, and 26.5 per 100,000 farmers for WMSDs, noise and heat-related diseases, and pesticide toxicity for Udon-Thani database. Those rates were higher than a report in HDC at least 2 times.

**Conclusions** Situations of work-related diseases among cultivated agriculturists in Thailand were not reflected in reality at the present as underestimation. Two main causes that made the underestimation rate; firstly, the number of cases were rarely reported of ICD-10 as occupational diseases, and the second was an inaccuracy of the number of registered farmers in the population. In the future, all agriculturists should be registered in the agricultural and health database.

**P-248 STRESS STATUS OF HEALTHCARE DRIVERS DURING THE COVID-19 PANDEMIC IN MALAYSIA**

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**Introduction** The pandemic of COVID-19 has brought a disastrous impact on every single aspect of human life and activities. The economic and health sectors are most affected by restriction on public movement, daily activities, and burden of coronavirus infection through increased infection and hospitalisation rate. Most research focused on front liners but they overlooked ambulance and healthcare drivers.

**Objectives** To determine the stress status of healthcare drivers in Malaysia and its associated factors during the COVID-19 pandemic.

**Methods** This cross-sectional study was conducted among randomly selected 163 healthcare drivers in Negeri Sembilan State Health Department, Malaysia, using self-reported validated questionnaires.

**Results** A majority of healthcare drivers were male (100%), married (90.1%) with their highest education consisting of a high school certificate (90.1%). Ethnicity, they consisted of Malay (95.7%), Indian (3.7%) and Chinese (0.6%). Three out of ten healthcare drivers were ambulance drivers, while the rest were non ambulance drivers. The prevalence of stress among healthcare drivers was 7.4% (95% CI: 3.7, 11.7). Higher prevalence was found among ambulance drivers compared to non ambulance drivers; 10.6% and 6.0% respectively. There was a significant association between stress and smoking status, performing on-call and duration of working hours in a similar unit.

**Conclusion** The study revealed that there was a low prevalence of stress among healthcare drivers in Malaysia during the pandemic. The reduced life threatening tasks, fewer emergency incidents and lesser assigned tasks throughout the movement control order during the COVID-19 pandemic could have contributed to the low prevalence statistics among the healthcare drivers in Malaysia. In addition, the effort by the Occupational and Environmental Health Unit, Negeri Sembilan State Health Department in providing consistent safety and health training including stress management might have assisted healthcare drivers to cope with the stressed situation both mentally and physically.