

0-347 **LOW BACK PAIN OCCURRENCE AND EVOLUTION IN DIFFERENT WORK SITUATIONS DURING COVID-19 EPIDEMIC LOCKDOWN FROM 17 MARCH TO 10 MAY 2020, IN METROPOLITAN FRANCE**

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Introduction The work organization of most French workers was significantly modified (extended implementation of teleworking, work interruptions...) during the first mandatory lockdown set up to fight the spread of the COVID-19 pandemic, from 17 March to 10 May 2020.

Objectives The aim of the study was to estimate the effects of the changes in the work organization due to lockdown on low back pain onset and its evolution.

Methods Workers were retrospectively interviewed online during three waves of the Coviprev study (access panel in the general population) between 8 June and 8 July 2020 about their work situation during lockdown and their low back symptoms before and at the end of the lockdown.

Results The rate of low back pain onset in workers who did not have any low back symptoms prior to the lockdown (n=2,113) was 10.4% [9.1–10.7]. The work situation during the lockdown was associated with significantly increased risks of low back pain in people who began teleworking due to lockdown, and in those who continued to work outside home at a higher pace than usual (compared to working outside home as usual; odds ratio of 2.81 [1.77–4.46] and 2.76 [1.50–5.09], respectively). The work situation during lockdown was also significantly associated with the evolution of low back pain in workers who already suffered from it before the lockdown (n=1,111, 34.3% [32.7–36.0]) with an increased risk of worsening for those who worked outside the home at a higher pace than usual (odds ratio 3.39 [1.38–8.31]) and a higher probability of improvement for those who usually worked from home before the lockdown (odds ratio 1.86 [1.00–3.43]).

Conclusion While the Covid-19 epidemic and teleworking take hold, measures should be implemented in order to prevent an increase in the burden of low back pain in workers.

0-446 **OCCUPATIONAL RISK FACTORS FOR SARS-COV-2 INFECTION AND COVID-19: RESULTS FROM THE COVICAT COHORT STUDY IN CATALONIA, SPAIN.**

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Introduction During the first lockdown in Spain (March-June, 2020) essential workers may have been at increased risk of coronavirus disease 2019 (COVID-19) via occupational exposure. Results from published studies are heterogeneous.

Methods Ongoing population-based cohort studies from Catalonia were pooled to form the COVICAT study. A random sub-population donated a blood sample (May-July, 2020) for validated multiplex serology testing. Occupational analyses were restricted to working age (18–65 years). Participants responded to a web-based or telephone survey including questions on socio-demographics, pre-pandemic health, behavioural

and environmental risk factors. Occupational questions covered mode of work (e.g. telework), job title, availability of personal protective equipment (PPE), and mode of commuting. Job titles were coded by an occupational hygienist to the Spanish CNO-11 and cross-walked to ISCO-08. COVID-19 cases were defined by symptoms or hospitalisation and SARS CoV-2 seropositivity based on immune responses to 15 isotype-antigen combinations (serology sub-cohort). Logistic regression models were built for type of work, job titles and job-exposure matrix (JEM), covering several dimensions and levels of SARS-CoV-2 transmission probabilities, and adjusted for age, sex, education, deprivation index, population density and survey type.

Results This analysis included 8,582 participants, of which 3,599 were tested for SARS-CoV-2 antibodies, median (SD) age 53.7 (6.3) years, 59.9% were women. The relative risk for COVID-19 for work in the usual workplace compared to telework was 1.87 (95% CI: 1.44, 2.42), and 1.44 (95% CI: 1.09, 1.90) among the serology study. The relative risk for nurses who worked in their usual workplace was 4.57 (95% CI: 3.12, 6.7). Detailed results by job title, JEM, availability of PPE and commuting mode will be presented.

Conclusions This study has several strengths, including random serology testing and individual-level exposure data. Detailed results may support extended legal definitions of COVID-19 as a recognized occupational disease.

COVID19–2

0-151 **ARE HEALTHCARE WORKERS USING PERSONAL PROTECTIVE EQUIPMENT DURING THE COVID-19 PANDEMIC?**

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Introduction Personal protective equipment (PPE) can prevent transmission of COVID-19; however, proper use requires time, experience, training and sufficient supplies of PPE.

Objective The aim of the overall study is to investigate the risk of COVID-19 among Danish healthcare workers. Here, the availability and use of PPE among the Danish healthcare workers during the pandemic is investigated.

Methods Healthcare workers employed at the Central Denmark Region (32,413) and the Capital Region of Denmark (38,807) on April 1, 2020 were invited to respond to daily questionnaires from April 24, 2020, until June 30, 2020 that addressed work tasks, contact with COVID-19 patients, use of PPE and breach of PPE. On November 17, 2020, 26,092 healthcare workers from the Central Denmark Region and on December 15, 2020, 9,664 from the Capitol Region of Denmark were invited to a second round of daily questionnaires, and were followed until April and March 30, 2021, respectively.

Results In total, 12,328 (38.0%) and 9,664 (24.4%) healthcare workers participated in the first round of the study, respectively in the Central Denmark Region and the Capital Region of Denmark. One fifth (20.3% and 20.6%

respectively), reported that they did not use the recommended PPE at least once during the study. Forgetfulness (26.1% and 27.3%, respectively) and time constraints (23.1% and 21.1%, respectively) were the primary causes for not using the recommended PPE. At the time of the conference, data from the second round of questionnaires (response rates of 26.1% and 41.6%, respectively, corresponding to 6,816 and 3,959 participants respectively) will also be available for presentation.

Conclusion One fifth of Danish healthcare workers have been in a situation where PPE was recommended but not used. Time constraints and forgetfulness are important reasons for this. Healthcare workers not wearing the recommended PPE increases the risk of the healthcare workers becoming infected with COVID-19, and is harmful to the performance of the healthcare system.

O-168 COVID-19 INFECTION AND MENTAL WELLNESS IN A CANADIAN COHORT STUDY OF HEALTHCARE WORKERS

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Introduction Healthcare workers (HCW) working through the pandemic are in the front line for infection, psychological pressure and overwork.

Objectives To identify modifiable work factors associated with COVID-19 infection and mental distress, and to assess the effectiveness of provisions to mitigate their impact.

Methods A cohort study of HCWs was set up in the first weeks of the pandemic in Canada. HCWs from British Columbia, Alberta, Ontario, and Quebec completed an online questionnaire in the spring/summer of 2020, and a Phase 2 questionnaire from October 2020. They also provided a blood sample to assess SARS-CoV-2 antibodies. HCWs reporting a COVID-19 infection after the Phase 2 questionnaire were matched on job-type and province to 4 referents for a nested case-referent (C-R) study concentrating on exposures immediately prior to infection. Phase 3 is underway, with a final contact planned for March 2022.

Results 5135 HCWs completed the Phase 1 questionnaire with 93% (4539/4857) of those eligible completing Phase 2. By March 1st 2021, 157 cases had been confirmed by PCR and a further 10 found positive only on antibody testing (an overall rate of 3.3%). The odds of infection doubled for working one-on-one with known COVID-19 patients. Rates were lower in physicians and nurses, compared to personal support workers, health care aides, and licensed practical nurses. HCWs in a hospital setting had lower rates than those working in the community, where shortages of personal protective equipment were more widespread. High rates of anxiety (on the Hospital Anxiety and Depression Scale) were recorded in both Phase 1 and 2. Only 1 in 4 HCW had used available mental health supports. By May 2021, 100 cases with 389 referents had been recruited to the on-going C-R study.

Conclusion Information collected prospectively has the potential to improve HCWs protection during this and future epidemics.

O-294 LEVELS OF ANXIETY AND DEPRESSION AND THE PERCEIVED RISK OF COVID-19 AT WORK

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Introduction Workers who frequently contact to public or provide close-contact service may have higher anxiety and depression levels, as they may be worried about getting infected with the coronavirus at work.

Objectives To examine the association of perceived risk of COVID-19 at work (including contact with people and close contact to public) with anxiety and depression levels among non-healthcare worker, taking perceived effectiveness of company's preventive measures into account.

Methods This is a multi-city cross-sectional study in Hong Kong, Nanjing and Wuhan. We recruited 7391 non-healthcare workers who were aged >18 during 07/2020–04/2021. We used standardized questionnaire to collect sociodemographic, job-related information and their satisfaction of effectiveness of company's preventive measures. Participants' frequency of contact and close contact to public were collected and classified into occasionally, sometimes and often, and their anxiety and depression levels were measured using DASS-21. We performed multinomial logistic regression models to examine the association of frequency of contact and close contact to public with anxiety and depression levels. Path models were developed to analyze the potential modification of perceived effectiveness of company's preventive measures on these associations.

Results Compared with workers with occasional contact to population, workers with sometimes contact were associated with severe anxiety (AOR=1.59, 95%CI=1.27–1.99). The AOR for workers with often close contact to public compared with no contact were 1.53 (95%CI= 1.25–1.87) for severe anxiety, and 1.43 (95%CI=1.14–1.79) for severe depression. Additionally, according to path analysis, the indirect path between contact or close contact to public and anxiety/depression were modified by perceived effectiveness of company's preventive measures.

Conclusion Workers with frequent contact with people or close contact to public was associated with worse anxiety and depressive symptoms. Companies should consider effective and sustainable measures in mitigating the risk and thereby reducing employees' anxiety and depression levels during the COVID-19 pandemic.

O-369 SARS-COV-2 ANTIBODY SEROPREVALENCE AMONG FIREFIGHTERS IN ORANGE COUNTY, CALIFORNIA

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Introduction Firefighters play a vital role in Orange County (OC) California (CA) communities by assisting in emergencies, providing emergency medical treatment, and transporting ill or injured individuals, in addition to performing traditional fire-fighting duties. Antibody testing can be a useful tool in