Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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of the periodic survey on Occupational Safety and Health (OSH), involving the main OSH actors.

Materials and Methods: The 2nd wave of the survey, conducted in 2019 and addressed to representative workers and employers’ samples, provided an important contribution to support the decision-making process of the Italian Government for action-oriented policy in order to determine priority and interventions on the COVID-19 emergency. A secondary analysis of data collected through the survey was useful for the drafting of the technical documents developed to support the release phase of the containment measures after the first lockdown (March-April 2020) for progressive reopening of work activities that had been suspended by regulatory restrictions.

Results: Data referred to workers perception on biological risk, commuting, eating habits during working time and health surveillance by occupational physicians were considered. These data were analyzed according to economic sector and geographical areas based on the level of COVID-19 contagion.

Conclusions: The epidemiological trend highlighted the importance of work as a substantial factor to consider both when implementing strategies aimed at containing the pandemic and shaping the lockdown mitigation strategy required for sustained economic recovery.

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COVID-19 infection and Long-COVID. Effective guidance for return to work

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Following the outbreak of a novel coronavirus disease, COVID-19 became a big challenge for public health. The world of work was severely affected during this crisis, while the pandemic highlighted the need to improve the interface between public health and occupational health, as well as to assess possible effects on occupational safety. Apart from acute health effects, a number of those infected are suffering from chronic symptoms for more than 12 weeks after the infection, a syndrome known as long-Covid. Building on existing information, non-binding guidelines were developed to support the release phase of the containment measures after the first lockdown (March-April 2020) for progressive reopening of work activities that had been suspended by regulatory restrictions.

Methods: New action tools were developed through three steps. First, we reviewed relevant references and collected existing action tools related to COVID-19 respond. Then we visited the facilities and collected good practices for preventing COVID-19. Finally, we discussed the practical ways and requirements for action tools effective in the facilities with disabilities. We conducted a two-hour program for 4 times at the facilities. The program was consisted of short lecture about COVID-19 and group discussions based on action checklist exercise.

Results: The staff members reviewed existing measures at the facilities and discussed point to be improved about COVID-19 preventing. In addition, they shared their concerns and doubts about COVID-19 measures that they felt in their daily tasks during group discussions. They felt difficulty, because of the children with disability sometimes were not able to use face masks, wash your hands and gargle regularly to prevent infection. However, many good practices for standard precaution adapted for disabled children were shared through the group discussions.

Discussion: By using a participatory approach that emphasizes social dialogue and action-oriented rather than one-way lecture-type training, staff members empower multifaceted actions for prevention COVID-19 with their own initiatives.

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Air pollution exposure, SARS-CoV-2 infection, and immune response in a cohort of 3,700 healthcare workers

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Introduction: The role of air pollution on SARS-CoV-2 infection is still unclear. We aimed to verify this association in a cohort of healthcare workers (HCWs), a group identified as at high risk since the beginning of the pandemic.

Material and Methods: We included HCWs who performed a nasopharyngeal swab (NS) for detection of SARS-CoV-2 at the Policlinico Hospital (Milan, Italy) in February-December 2020. Daily average concentrations of particulate matter <2.5 µm (PM2.5) and nitrogen dioxide (NO2) were assigned to each worker’s residential address and treated as time-dependent variables. We generated person-days at risk and applied multivariable Poisson regression models adjusted for age, sex, BMI, smoke, job title and province to evaluate incidence rate ratios (IRR) and 95% confidence interval (CI) of positive NS. The association between air pollution and anti-nucleocapside antibodies was assessed among swab-positive workers through multivariable linear regression models. The study was approved by the hospital Ethics Committee (828_2021bis).

Results: 635 (17%) positive swabs were recorded among 3,712 included HCWs. A 10 µg/m3 increase in PM2.5 and NO2 average concentrations in the five days preceding NS was associated with a higher risk of testing positive [IRR: 1.11 (CI: 1.02; 1.21) and 1.10 (1.03; 1.18), respectively]. Among swab-positive HCWs, we observed a 49% decrease in antibody titer (CI: -60; -36) associated with a 10 µg/m3 increase in PM2.5 mean levels in the month preceding NS.

Conclusions: Our study suggests a potential role of air pollution exposure in influencing the immune response to SARS-CoV-2 infection.

COVID-19 outbreak investigation in a hospital using computational flow analysis

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Introduction: Over the last two years, the COVID-19 has caused unprecedented disruption worldwide. Healthcare workers (HCW), particular those working in hospitals have been the most affected from increased risk of contracting COVID-19 from hospital environment and patient care. Although various efforts have been taken by the hospital to reduce the risk, however, outbreaks still continue to occur. This case study reports on an outbreak investigation using computation flow analysis to investigate an outbreak in a non-COVID-19 ward.

Material and Methods: This is a case report of an outbreak that occurs in a non-COVID-19 ward in a teaching hospital in Malaysia. The outbreak investigation was conducted, which includes contact tracing, risk assessment, walk-through survey, airflow measurements and computational flow analysis (CFA).

Results: The outbreak occurred in one of the five bedded cubicles in a non-COVID-19 ward. The index case was a patient that was admitted for non-COVID-19 related medical conditions. The index case subsequently transmitted the disease to three patients and one HCW. On initial assessment, the HCW was not considered to have acquired COVID-19 from the index case, as the HCW have no unprotected contact with the index case. However, after the walk-through survey assessment, it was noted that airflow may be a contributing factor. An airflow measurement and CFA was conducted and reviewed the possibility route of transmission.

Conclusion: The use of airflow assessment and CFA should be considered in a respiratory diseases outbreak investigation.

Corporate response to the COVID-19 pandemic and the usefulness of the study group for multidisciplinary occupational health staffs

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Objective: The spread of the COVID-19 has had a significant impact on OH activities. We report on the corporate response to the pandemic and the usefulness of study groups based on surveys and discussions at the Sanpo-society (the study group for multidisciplinary OH staffs).

Methods: (1) During the first wave (April-May 2020), we conducted a survey on the pandemic response at the Sanpo-society. (2) In the second wave (September), we summarized the discussions at the summer seminar “Impact of the pandemic on corporate OH activities and health promotion.”

Results: (1) We received responses to the survey from 122 companies, and in most of them, OH activities had been affected by the pandemic. Major issues mentioned were refraining from meetings, installing disinfectants, promoting telework, shortening work hours, and health monitoring. The most common issues were shortage of masks and disinfectants, impact on business performance, anxiety about infection, and the physical and mental stress of telework. (2) Discussions at the summer seminar revealed the enormous impact of the pandemic on corporate activities and the limitations of OH activities. However, this resulted in the expansion of OH activities and health education online and a major shift toward telecommuting for OH and safety management.

Discussion: The enormous impact of the pandemic on OH activities was evident from both the survey responses and the seminar discussions. Despite the lack of evidence and experience, the number of participants in Sanpo-society doubled, helping to resolve problems and share multidisciplinary information among companies.

Healthcare workers SARS COV 2 infection assessment in Terni Hospital, Umbria, central Italy

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Introduction: The risk of SARS CoV 2 infection in healthcare workers (HCWs) has been demonstrated to be very high; we...