

THE UK DEFENCE MEDICAL SERVICES POST COVID-19 RECOVERY, REHABILITATION AND RESEARCH PROGRAMME



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OVERVIEW:

The UK has the 3rd highest COVID-19 death rate in the world and the highest in Europe. The Second Wave was severe, and 25,000 UK military service personnel were affected. Originally, as elsewhere in the world, the medical focus was on testing, acute care and severity of disease. There was also a particular interest in COVID-19 cardiopulmonary involvement in survivors and long-term effects in the UK and the functional and cognitive outcomes of cardiopulmonary involvement. Military specific research questions included complications and outcomes in young, physically active populations; those with mild disease; and those required to undertake high levels of physical activity, like military personnel and public safety personnel. This called for the rapid establishment of a new rehabilitation service, a new recovery and assessment service, and a new research program, all to work hand in glove. A post-COVID multidisciplinary inpatient rehabilitation service was set up at Stanford Hall in the Defense and National Medical Rehabilitation Centre. The service consists of a two-week residential course focused on education, goal setting, pulmonary rehabilitation and symptom titrated exercise programs, psychological assessment, well-being and mindfulness, and medical assessments.

HIGHLIGHTS:

Of 230 admissions to the rehabilitation program, all deviated from the norms of average military services members: the mean age was 41 years, 80% were overweight or obese and 17% were from ethnic minorities. Common symptoms were fatigue, cough, shortness of breath from mild or moderate activity, anxiety and low mood, and pain. Those with a confirmed diagnosis via molecular polymerase chain reaction (PCR) tests had significantly less anxiety, low mood, and pain, and there was a trend of fewer symptoms presenting in those who had been referred and assessed early. Three-month follow-up data indicated that 91% had returned to employment, 68% are no longer affected by fatigue, 66% are not having breathing difficulties, 81% are not affected by brain fog or cognitive problems, and 88% are no longer experiencing anxiety and low mood. Only 2.5% were referred for further rehab, but interestingly, 96% of them are using rehab strategies in day-to-day life, emphasizing the importance of the rehab course.

The 10-day COVID-19 rehabilitation pathway focused on cardiopulmonary exercise testing, which addressed capacity, prognosis and diagnosis. Discrimination of cognitive ability showed consistently that the fluid domain suffered in all post-COVID patients. The level of fluid domain function impairment is akin to being at the UK drunk driving limit, having aged by 10 years, or having dropped 7 IQ points. Clearly, this cognitive effect needs to be followed up further at 12 months.

Very preliminary results from the observational descriptive perspective cohort study showed the hospitalized group was older and had higher BMI; hospitalized and non-recovered groups had worse mental health outcomes, quality of life, fatigue scores, VO2 and VO2 Max scores, 6-minute walk tests and higher resting heart rates.

TAKEAWAYS AND NEXT STEPS:

Given the depth of the investigations that were launched quickly, there has been a lot of national and international engagement in the work, including organizations representing public safety personnel like police and firefighters. The major takeaway from the research is that if patients are asymptomatic post-COVID-19 acute infection, they have no differences from controls. This is an important message for UK defence to get people back to work and engage in strenuous exercise.

Though there has been an increased focus on acute care, it is not enough to save people's lives. They must return to their pre-COVID level of functionality. As demonstrated in the UK, a rehabilitation pathway involving an organized process of intake, diagnosis, and treatment has positive outcomes in addressing post-COVID syndrome in severely hospitalized patients. Meanwhile, asymptomatic patients have no significant sequela. This gives system planners rigorous evidence-based data in considering how to improve the lives of post-COVID survivors in the military, public safety personnel and broader populations.