Singing Strong in COPD Interventions

Chronic respiratory disease in Ireland is a leading cause of morbidity and mortality, and places an enormous burden on limited healthcare resources.

Chronic conditions such as COPD, pulmonary fibrosis and asthma can have a devastating impact on the patient and their families, affecting the holistic wellness of the person – physically, emotionally, socially and economically. Best practice advocates empowering people to self-manage their health and wellness over the long-term, with group settings particularly useful for compliance and support.

The “SingStrong” project delivers interventions crafted to address these bio-psychosocial problems through community-based singing and breathing classes, education and social interaction. This intervention has proven to be exceptionally effective in terms of objective measures of health improvement, qualitative reports of participant satisfaction, and value for money.

SingStrong is the brainchild of Dr Roisin Cahalan, Physiotherapist Lecturer and Researcher at the University of Limerick; and Limerick vocal coach and choir leader Ms Ciara Meade. In co-operation with COPD Support Ireland and with funding from the Irish Research Council, this programme of breathing and vocal exercises was first delivered to community COPD support groups in Limerick, Clare and Tipperary in 2019. An evaluation of the 8-week pilot trial was conducted with the assistance of HSE-West clinicians. The 75 participants who attended at least half of the classes were included in the analysis which showed significant improvements in physical endurance as well as non-significant improvements in spirometry and quality of life measures. Focus groups were additionally conducted to inform subsequent iterations of the programme. The feedback was universally positive with participants commonly alluding to improvements in breathing, quality of life and intervention enjoyment.

There are multiple physiological underpinnings for the efficacy of singing as an intervention in lung disease. These include utilisation of cardiorespiratory system during persistent singing training, resulting in enhanced respiratory muscles and an optimized breathing mode. In addition, singing can also cause changes in neurotransmitters and hormones, including the upregulation of oxytocin, immunoglobulin A, and endorphins, which improves immune function and increases feelings of happiness. Many patients with chronic disease display inefficient apical breathing patterns, using the smaller muscles of the neck and shoulder in preference to the primary respiratory muscles of the diaphragm and intercostals. This can lead to disordered breathing, inefficient oxygenation of skeletal muscles, and over time reduced exercise endurance, anxiety and a curtailed ability to participate in life.

SingStrong addresses these multi-pronged problems through hour-long classes which support respiratory muscle training, anxiety management and mindfulness. With the advent of COVID-19, the programme has moved online and now delivers classes to people from all over the island of Ireland. The online programme also facilitates optional breakout rooms for people to chat to others facing similar challenges. This has been a lifeline for many people living alone and cocooning due to the current pandemic. The online format has also allowed the delivery of seminars from relevant experts (physiotherapy, GP, dietician, psychologist), as requested by the members. All classes and talks are free of charge and recorded to be made available to people who cannot attend live.

At present, the majority of members are people with COPD and/or asthma, as well as a lesser number with pulmonary fibrosis or post lung cancer. Classes catering specifically for people with pulmonary fibrosis will commence shortly, and there are plans to deliver classes to younger cohorts with asthma also in train. Additionally, the organisers have recently commenced a SingStrong trial for people suffering residual lung issues post COVID-19. This cohort poses a challenge to clinicians due to the unknown and evolving nature of the disease. However initial data indicates a high incidence of disordered breathing and suboptimal oxygen saturation in a marked proportion of people post Covid-19, including both ventilated and non-ventilated patients. The trial will evaluate the impact of a targeted breathing retraining and singing programme over a ten-week series of bi-weekly classes.

The founders of SingStrong aim to train a network of vocal coaches skilled in singing for lung health, to support/partner a national network of community-based lung-health groups once COVID-19 is under control. The intention is also to continue with online classes to overcome logistical difficulties for people unable/unwilling to attend in person. The joy of this programme is that it is an exercise programme underpinned by clinical rationale, and delivered with specific health aims in mind. But because it is great fun, it doesn’t feel like exercise, and as such compliance is excellent and people are exercising without realising it.
Vaccine and Blood Clot Review

The European Medicines Agency (EMA) has concluded a review of cases of unusual blood clots, combined with low blood platelets, which have occurred in people vaccinated with Vaxzevria®. "It is important both vaccinated people, and healthcare professionals are aware of the signs and symptoms of these unusual blood clotting disorders and can spot them quickly to minimise the risk," said Emer Cooke, EMA Executive Director.

The HPRA highlights in particular the following key aspects of the EMA conclusion:

- The reported combination of blood clots and low blood platelets is very rare, and the overall benefits of the vaccine in preventing COVID-19 outweigh the risks of side effects.
- Based on a careful review of the available evidence, a causal relationship is considered plausible between vaccination with Vaxzevria® and cases of blood clots in combination with a low blood platelets. Although such adverse reactions are very rare, they exceeded what would be expected in the general population.
- No specific risk factors have been identified at this stage, as based on the available evidence, it was not possible to conclude on factors that may predispose a person to develop this side effect. While cases mostly occurred in women under the age of 60 years, this may be explained by other factors, such as the profile of groups vaccinated in the EEA.
- Vaxzevria® product information was recently updated to include advice to healthcare professionals and those vaccinated. This includes recommendation to seek immediate medical attention if any of the following signs and symptoms are experienced following vaccination; shortness of breath, chest pain, leg swelling, or persistent abdominal pain. Medical attention should also be immediately sought if severe or persistent headaches or blurred vision after vaccination occurs, or if there is an experience of skin bruising or pinpoint spots beyond the site of vaccination appearing after a few days.
- This safety issue will be kept under continuous close review, with new studies and amendments to ongoing studies requested to provide additional information.

Sharing of Health Data across EU

New research commissioned by the European Commission, DG Sante, from the institute for health services research, NIVEL in collaboration with RCSI University of Medicine and Health Sciences, has identified potential future EU-level actions to enable the more efficient sharing of healthcare data across the EU.

The actions, which include the development of a Code of Conduct for data collection and sharing along with other non-legislative and legislative actions, would support the establishment of a European Health Data Space to regulate and ensure a consistent approach to healthcare data exchange and improve healthcare provision, research and policy-making across Europe.

The study, entitled ‘Assessment of the EU Member States’ Rules on Health Data in Light of GDPR’, was conducted over the first months of the COVID-19 pandemic in 2020, as part of preparatory work to provide a framework for the use of health data for healthcare delivery, research and policy making in the EU Member States.

The research revealed that there is too much variation between member states in implementing GDPR in the area of health, in order to create an efficient and effective joint infrastructure. This fragmentation precludes a more co-ordinated European approach to health care and health research into the spread and treatment of diseases.

Mary Kirwan, co-author of the study and Department of General Practice, RCSI said, ‘Efficient collection and a rights based approach to the sharing of data is critical to the future of healthcare worldwide. The Covid-19 pandemic has highlighted how important it is that we have access to research and data on a large scale that can enable healthcare policy makers to make informed evidence-based decisions that impact directly on healthcare provision and outcomes for patients. The pandemic has done much already to increase willingness for such co-operation and provides us with many new models for rapid, responsive and impactful action. This is essential to the provision of efficient health care across the EU into the future.’

The project was a joint effort of NIVEL, the Dutch Institute for Health and the Environment (RIVM), RCSI University of Medicine and Health Sciences, the MLC Foundation and Health Connect Partners.