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Hello from Co-ordinator

Welcome to the second newsletter of the CoMorMent project.

In this newsletter we are highlighting some of the research results that CoMorMent has produced so far. Several of these have been converted into plain text versions that we hope make our key findings a little easier to understand. We also list our [publications](#) and [lay summaries](#) on our website.

If you want to hear more about our research, why not follow us on Social Media:

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With best wishes, Ole Andreassen

Lay summaries of our research papers

- [Increased risk of mental illness following diagnosis of cardiovascular disease](#)
- [Diagnosis of depression is followed by increased risk of cardiovascular disease and other physical health conditions](#)
- [Loneliness and genetics – new directions for improving cardiovascular health in people with mental illness](#)
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Increased risk of mental illness following diagnosis of cardiovascular disease (CVD)

The researchers found that being diagnosed with cardiovascular disease (CVD) increased a person’s risk of being diagnosed with a subsequent mental illness.

This risk of mental illness was particularly high in the months immediately after a CVD diagnosis, and came down as time went on. People with multiple cardiovascular conditions were at higher risk of mental illness than those with only one cardiovascular condition. Furthermore, those who developed a mental illness following a diagnosis of CVD were 55% more likely to die from cardiovascular causes than those CVD patients who had not developed a mental illness.

Clinical implication: Health professionals should be aware of the heightened risk of mental illness among people with CVD, especially in the first year after a CVD diagnosis.

[Read the full lay summary](#)

Qing Shen et al (2022) [eLife 11:e80143](#)

Diagnosis of depression is followed by increased risk of cardiovascular disease and other physical health conditions

CoMorMent researchers found 129 medical conditions that were more likely in people who were admitted to hospital with a primary or secondary diagnosis of depression than people who were admitted to hospital with no depression diagnosis.

These 129 conditions fit into three broad categories: cardiometabolic conditions, chronic inflammation, and tobacco-related disease. People who received an inpatient diagnosis of depression were also more likely to die during the study period, from causes which included cardiovascular disease, respiratory system disease, and cancerous tumours.

Clinical implication: This highlights the need for clinicians to focus on the cardiovascular health of patients with depression.

[Read the full lay summary](#)

Han, X. et al (2021) [Mol Psychiatry 26, 6736–6746](#)

Diagnosis of depression is followed by increased risk of cardiovascular disease and other physical health conditions

After someone has been diagnosed with depression, they are more likely than non-depressed people to develop additional health conditions. CoMorMent researchers and their colleagues sought to investigate this important topic by using data held in UK Biobank.

Researchers then used this information to look at the participants' health after their diagnosis of depression. They found that 129 medical conditions were more likely in the group of people with a prior diagnosis of depression than in the comparison group. These conditions fit into three broad categories: cardiometabolic conditions, chronic inflammation, and tobacco-related disease. People who received an inpatient diagnosis of depression were also more likely to die during the study period, from causes which included cardiovascular disease, respiratory system disease, and cancerous tumours...

This highlights the need for clinicians to focus on the cardiovascular health of patients with depression

[Read the full lay summary](#)

Han, X. et al (2021) [Mol Psychiatry 26, 6736–6746](#)

Loneliness and genetics – new directions for improving cardiovascular health in people with mental illness

Feelings of loneliness affect nearly 80% of people with mental illness. Surprisingly, loneliness itself increases the risk of cardiovascular disease and premature death just as much as more commonly-known risk factors like physical inactivity and smoking.

In addition, some people have genes which make them more likely to experience feelings of loneliness. Indeed, recent research has uncovered genes which increase the risk of loneliness, mental illness and cardiovascular disease at the same time.

CoMorMent researcher Linn Rødevand and her colleagues have suggested two key areas for improvement. Firstly, research should focus on ways to reduce loneliness. Secondly, prediction tools (which use algorithms to predict someone's cardiovascular risk) should be tailored for people with mental illness.

Clinical implication: A focus on reducing loneliness could help target health interventions towards those who need them most.

[Read the full lay summary](#)

Rødevand, Tesli & Andreassen (2022) [Current Opinion in Psychiatry, 35](#)

The concept of “brain age” and how it relates to cardiometabolic health

Healthy brains age in a similar way to our bodies, with elements such as the amount of grey matter changing as people get older. This is known as a “brain age”, and it can be different from the individual's actual chronological age.

Dani Beck and his colleagues found that a number of cardiometabolic risk factors were related to older brain age. These risk factors included higher systolic blood pressure, higher pulse rate and higher levels of C-reactive protein (a molecule that has been linked to inflammation in the body). In addition, they found that people with higher systolic blood pressure and higher waist-to-hip ratios showed faster brain aging over time.

Clinical implication: Taking steps to improve cardiometabolic health may also help to slow down brain aging, which in turn could reduce vulnerability to dementia and other neurological conditions.

[Read the full lay summary](#)

Beck, D. (2022) [Human Brain Mapping, 43\(2\), 700– 720](#)

Higher levels of stress hormones in women who have previously experienced violence

CoMorMent examined the relationship between life stressors and levels of cortisol in a large sample of women who attended routine cancer screening in Iceland. Although the women were recruited from the general population, 42% had experienced physical and/or sexual violence. For 70% of these women, the first instance of violence occurred in childhood.

The researchers found that the more stressful life events the women had experienced, the higher the concentration of cortisol in their hair. They also found that physically and sexually violent stressful life events were more closely related to cortisol levels than non-violent stressful life events. For each violent event, levels of hair cortisol rose by 10%.

Clinical implication: Experiences of violence may increase cortisol, which in turn could disrupt the normal functioning of the body. People who experience violence may be at higher risk of ill health and may benefit from increased monitoring from clinicians.

[Read the full lay summary](#)

Lynch R, et al. (2022) [The International Journal on the Biology of Stress](#)

Severe COVID-19 infection is linked to greater risk of anxiety and depression up to 16 months later.

CoMorMent researchers found that severity of COVID-19 infection was related to the prevalence of subsequent long-term mental illness symptomology. People who had been bedridden with COVID-19 for seven days or more showed long-lasting symptoms of mental illness. Specifically, when compared to people who had not had COVID-19, this group of people showed continually higher rates of depression, anxiety, and poor sleep quality from the point of infection until the end of the study (up to 16 months later).

Clinical implication: The more severe the physical symptoms at the time of COVID-19 infection, the higher the risk of long-term symptoms of anxiety and depression.

[Read the full lay summary](#)

Magnúsdóttir et al. (2022) [The Lancet Public Health](#)

Adverse muscle composition predicts all-cause mortality in the UK Biobank imaging study

CoMorMent researchers analysed medical images taken from 40,000 volunteers. They found that people who had low muscle mass [*strength*] combined with high muscle fat infiltration [*fat tissue inside the muscles*] were more than three times more likely to die during the study period than people who did not have these risk factors. In fact, when taking multiple health factors into account, having this combination of low muscle mass and high muscle fat infiltration was just as dangerous as smoking.

Clinical implication: These findings highlight a particular biological pattern which clinicians could use to identify patients who are at greater risk and would benefit from a higher level of support.

[Read the full lay summary](#)

Linge et al (2021) [Journal of Cachexia, Sarcopenia and Muscle](#)

A population-based investigation of the body-brain link

This study by Gurholt and colleagues was the first to use such a large sample size (25,000) to examine relationships between the brain and body fat / body composition from body MRI. Their work suggests the existence of many associations of small effect size, linking numerous brain regions with body fat and muscle composition.

Scientific implication: By building larger datasets, CoMorMent will soon be able to examine brain imaging data from over 100,000 individuals. These will form the foundation for novel discoveries on the role of cardiometabolic factors in mental illness.

[Read the full lay summary](#)

Gurholt et al (2021) [Translational Psychiatry](#)

That's all for this edition

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Best wishes,

[Iona Beange and Lizzy Kirkham](#)

The CoMorMent Comms team



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