

The following information resources have been selected by the National Health Library and Knowledge Service Evidence Virtual Team in response to your question. The resources are listed in our estimated order of relevance to practicing healthcare professionals confronted with this scenario in an Irish context. In respect of the evolving global situation and rapidly changing evidence base, it is advised to use hyperlinked sources in this document to ensure that the information you are disseminating to the public or applying in clinical practice is the most current, valid and accurate. For further information on the methodology used in the compilation of this document - including a complete list of sources consulted - please see our National Health Library and Knowledge Service Summary of Evidence Protocol.

YOUR QUESTION

What impact is cocooning and the increased level of anxiety due to COVID-19 having on the mental health of those identified as at-risk due to a chronic disease [immunocompromised]? What interventions have been identified and deemed efficacious?

IN A NUTSHELL

Venkatesh et al^I point to quarantine and social isolation as contributors to frustration, boredom, low mood and potentially depression among those affected by recent pandemics. Anxiety was associated with stress and reduced sleep quality, and the combination of anxiety and stress reduced the positive effects of social capital on sleep quality⁵. Brooks et al^{II} found that during major infectious disease outbreaks, quarantine can be a necessary preventive measure; however, quarantine is also often associated with a negative psychological effect. Mukhtar et al^{II} point to substantial evidence from past epidemics on the detrimental impact of quarantine on psychological health. In a study carried out in the Basque community in Northern Spain, Ozamiz-Etxebarria et al^{II} found that although levels of anxiety were generally low at the start of the pandemic alert, younger individuals with chronic diseases reported more symptoms than the rest of the population.

Interventions

Fischer et al¹⁴ found that self-guided therapeutic approaches including cognitive-behavioural therapies, mindfulness and acceptance-based interventions, selected positive psychology interventions, and multi-component and activity-based intervention showed promising evidence for effectiveness in combatting anxiety due to quarantine and self-isolation. Sofo et al¹⁶ investigated alternative approaches to alleviating stress during quarantine including the health, recreational and economic benefits associated with growing vegetable gardens in home spaces. Physical exercise as a de-stressor is discussed by Matias et al²⁴ who argue that



exercising at home in a crisis situation can be performed without self-criticism; which in turn may provide adaptive coping, problem-solving and psychological well-being. In a 2018 systematic review, Thabrew et all highlight the importance of e-health interventions in alleviating stress among children and adolescents suffering from long-term chronic conditions.

Technology

Meinert et al¹⁵ describe the design of a mobile health app which will use goal setting and online communities to encourage positive nutrition, physical activity and virtual interaction during social distancing. Similarly, Viana et al²⁰ discuss how exergames [video games that also involve fitness or exercise] can be a useful method of combatting anxiety during periods of self-isolation.

IRISH AND INTERNATIONAL GUIDANCE

What does the Health Protection Surveillance Centre (Ireland) say?

What does the World Health Organization say?

WHO: Mental health and psychosocial considerations during the COVID-19 outbreak 18 March 2020¹

Messages for People in Isolation

Stay connected and maintain your social networks. Try as much as possible to keep your personal daily routines, or create new routines if circumstances change. If health authorities have recommended limiting your physical social contact to contain the outbreak, you can stay connected via telephone, email, social media or video conference.

During times of stress, pay attention to your own needs and feelings. Engage in healthy activities that you enjoy and find relaxing. Exercise regularly, keep regular sleep routines and eat healthy food. Keep things in perspective. Public health agencies and experts in all countries are working on the outbreak to ensure the availability of the best care to those affected.



A near-constant stream of news reports about an outbreak can cause anyone to feel anxious or distressed. Consult information updates and practical guidance at specific times during the day from health professionals and the WHO website; avoid listening to, or following, rumours that make you feel uncomfortable.

What do the Centres for Disease Control and Prevention (United States) say?

Coronavirus Disease Stress and Coping²

- Take breaks from watching, reading or listening to news stories, including social media. Hearing about the pandemic repeatedly can be upsetting.
- Take care of your body.
- Take deep breaths, stretch, or meditate.
- Try to eat healthy, well-balanced meals.
- Exercise regularly, get plenty of sleep.
- Avoid alcohol and drugs.
- Make time to unwind.
- Try to do some other activities you enjoy.

INTERNATIONAL LITERATURE

IMPACT OF SELF-ISOLATION OR SELF-QUARANTINE

Décary et al (13 May 2020) How to Effectively Support Patients with Rheumatic Conditions Now and Beyond COVID-19³

Isolation limits physical activity which, for the majority, is a core component of their self-management plan. Some preferred modes of exercise are not available such as swimming pools or gyms. Clinicians and patients are sharing videos of exercise online and various stress-relieving therapies, but their effectiveness and safety warrant more research. Co-developing and evaluating evidence-based virtual interventions with patients is of prime importance to ensure they have access to a diversity of strategies to selfmanage their disease.



Sirotich et al (2020) COVID-19 Global Rheumatology Alliance Steering Committee. Capturing patient-reported outcomes during the COVID-19 pandemic: Development of the COVID-19 Global Rheumatology Alliance Patient Experience Survey⁴

The authors describe a patient experience survey which collected data from people with rheumatic diseases to see how COVID-19 impacted their physical and mental health. "The results of both the C19-GRA Physician-Registry and Patient Experience Survey will provide insight into the treatment strategies, disease activity, behavioural impacts, and experiences of patients with rheumatic disease with and without a COVID-19 diagnosis".

Xiao et al (20 March 2020) Social Capital and Sleep Quality in Individuals Who Self-Isolated for 14 Days During the Coronavirus Disease 2019 (COVID-19) Outbreak in January 2020 in China⁵

The authors present a report from China on 170 people who had self – isolated at home for 14 days and who completed questionnaires on the third day.

Individual social capital was assessed using the Personal Social Capital Scale 16 (PSCI-16) questionnaire. Anxiety was assessed using the Self-Rating Anxiety Scale (SAS) questionnaire; stress was assessed using the Stanford Acute Stress Reaction (SASR) questionnaire; and sleep was assessed using the Pittsburgh Sleep Quality Index (PSQI) questionnaire. Path analysis was performed to evaluate the relationships between a dependent variable (social capital) and two or more independent variables, using Pearson's correlation analysis and structural equation modelling (SEM). Low levels of social capital were associated with increased levels of anxiety and stress, but increased levels of social capital were positively associated with increased quality of sleep. Anxiety was associated with stress and reduced sleep quality, and the combination of anxiety and stress reduced the positive effects of social capital on sleep quality.

Hagerty and Williams (7 May 2020) The Impact of COVID-19 on mental health: the interactive roles of brain biotypes and human connection⁶ COVID-19 along with the mitigation strategies being used to address the virus poses significant threats to our individual and collective mental health.



The causes of mental health effects in the context of COVID-19 are multifactorial and likely include biological, behavioural, and environmental determinants.

We argue that the COVID-19 crisis significantly threatens our basic human need for human connection which might serve as a crucial environmental factor that could underlie the overall insult to our mental health. Furthermore, 'brain styles,' which we have previously conceptualized as 'biotypes' that are informed by a neural taxonomy, might interact with the universal threat to our need for human connection to explain the mental health consequences of COVID-19 from a precision psychiatry perspective. The goal of this commentary is to inspire research on the mental health consequences of COVID-19 from an individualized, brain-based perspective that honours the profound threat that the virus poses to our basic human motivations.

Venkatesh et al (6 April 2020) [Letter] Social distancing in COVID-19: what are the mental health implications?⁷

"In recent pandemics, isolation and quarantine have precipitated depression and anxiety. We might expect to see similar effects as confined people are detached from their loved ones, deprived of personal liberties, and devoid of purpose owing to altered routine and livelihood. This can contribute to frustration, boredom, low mood and potentially depression. Anxiety might arise from fear of contagion and inadequate clarity around social distancing guidelines often made worse by less reliable media sources heightening confusion and fearmongering.

Ozamiz-Etxebarria et al (30 April 2020) Stress, Anxiety, and Depression Levels in the Initial Stage of the COVID-19 Outbreak in a Population Sample in the Northern Spain⁸

The SARS-CoV-2 virus reached Spain in March 2020, and a nationwide state of alert was declared on March 14th, leading to the confinement of the entire population. The current study was conducted in the Basque Autonomous Community in northern Spain. The authors analysed stress, anxiety and depression with the arrival of the virus and the levels of symptoms according to age, comorbidity, and confinement. Levels of anxiety, stress, and depression were measured in a sample of 976 adults, using the Depression Anxiety and Stress Scale. The study also detected higher levels of symptoms after the stay-at-home order was issued. Such symptoms are predicted to increase as the confinement continues. The authors propose



psychological interventions for prevention and treatment in order to mitigate the psychological impacts of the pandemic. Although levels of symptoms were generally low at the start of the alert, younger individuals with chronic diseases reported more symptoms than the rest of the population.

Rohr et al (27 April 2020) Psychosocial Impact of Quarantine Measures During Serious Coronavirus Outbreaks: A Rapid Review⁹

Across 13 identified studies, quarantine measures were consistently associated with negative psychosocial outcomes, including depressive symptoms, anxiety, anger, stress, posttraumatic stress, social isolation, loneliness and stigmatization. Determinants comprised duration of quarantine measures and income losses. Health care workers constituted a particularly vulnerable group.

Mukhtar (21 May 2020) [Review] Psychological health during the coronavirus disease 2019 pandemic outbreak¹⁰

Substantial evidence from the past studies of epidemics on the impact of psychological health has shown psychosocial consequences in the affected individuals and in the general population. The emerging global mental health issues relative to COVID-19 pandemic may evolve into long-lasting health problems permeated through feelings of vulnerability, isolation/quarantine, fear, anxiety, psychological distress, psychosocial stressors, posttraumatic symptoms, stigma and xenophobia. It is vital to emphasize the psychological health and well-being (physical, economic, social, mental, emotional, psychological, spiritual, development and engaging activity, quality of life, life satisfaction and domain-specific satisfaction) of the population through proactive psychological interventions during the COVID-19 pandemic.

Brooks et al (14 March 2020) The psychological impact of quarantine and how to reduce it: Rapid review of the evidence¹¹

The December 2019 coronavirus disease outbreak has seen many countries ask those who have potentially come into contact with the infection to isolate themselves at home or in a dedicated quarantine facility. Decisions on how to apply quarantine should be based on the best available evidence. We did a review of the psychological impact of quarantine using three electronic databases. Of 3,166 papers found, 24 are included in this review. Most studies reported negative psychological effects including post-traumatic



stress symptoms, confusion, and anger. Stressors included longer quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma. Some researchers have suggested long-lasting effects. In situations where quarantine is deemed necessary, officials should quarantine individuals for no longer than required, provide clear rationale for quarantine and information about protocols, and ensure sufficient supplies are provided. "During major infectious disease outbreaks, quarantine can be a necessary preventive measure. However, this review suggests that quarantine is often associated with a negative psychological effect. The evidence that a psychological effect of quarantine can still be detected months or years later 3/4 albeit from a small number of studies 3/4 is troubling, and suggests the need to ensure that effective mitigation measures are put in place as part of the quarantine planning process".

<u>Lippi et al (7 April 2020) Health risks and potential remedies during prolonged lockdowns for coronavirus disease 201</u>9 (COVID-19)¹²

As the COVID-19 pandemic continues, an increasing number of countries and territories are adopting restrictive measures based on physical distancing aimed at preventing human-to-human transmission. Nationwide lockdowns, encompassing mass quarantine under stay-at-home ordinances, have already been proven effective to contain COVID-19 outbreaks in some countries. Nevertheless, a prolonged homestay may also be associated with potential side effects, which may jeopardize people's health. Some of the most important undesirable consequences of prolonged homestay such as physical inactivity, weight gain, behavioural addiction disorders, insufficient sunlight exposure and social isolation will be critically addressed in this article, which also aims to provide some tentative recommendations for the alleviation of side same.

Pfefferbaum and North (13 April 2020) Mental Health and the COVID-19 Pandemic¹³

The COVID-19 pandemic has alarming implications for individual and collective health, and emotional and social functioning. In addition to providing medical care, already stretched health care providers have an important role in monitoring psychosocial needs and delivering psychosocial support to their patients, health care providers, and the public ¾ activities that should be integrated into general pandemic health care.



Fischer et al (22 April 2020) Rapid review and meta-meta-analysis of self-guided interventions to address anxiety, depression and stress during COVID-19 social distancing¹⁴

The authors conducted a rapid review and quantitative summary of meta-analyses examining interventions which can be used by individuals during quarantine and social distancing to manage anxiety, depression, stress and subjective well-being. A literature search yielded 34 meta-analyses that were summarized. Overall, self-guided interventions showed small to medium effects in comparison to control groups. In particular, self-guided therapeutic approaches [including cognitive-behavioural, mindfulness, and acceptance-based interventions], selected positive psychology interventions, and multi-component and activity-based interventions showed promising evidence for effectiveness. Self-guided interventions on average did not show the same degree of effectiveness as traditional-guided individual or group therapies. There was no consistent evidence of dose effects, baseline differences and differential effectiveness of eHealth interventions. More research on the effectiveness of interventions in diverse cultural settings is needed.

Meinert et al (6 May 2020) Agile Requirements Engineering and Software Planning for a Digital Health Platform to Engage the Effects of Isolation Caused by Social Distancing: Case Study¹⁵

A case study on system design for the Activating Digital to Support Social Distancing COVID-19 Aware Family Engagement (ADAPT-CAFÉ). The team will design, develop and deploy a digital health mobile app to provide a means of assisting families and peer groups in maintaining contact with older people. The app will use goal setting and online communities to encourage positive nutrition, physical activity, and virtual interaction during social distancing. The app will be tested and evaluated in future studies to allow continuous improvement.

Sofo et al (22 April 2020) Converting Home Spaces into Food Gardens at the Time of COVID-19 Quarantine: All the Benefits of Plants in This Difficult and Unprecedented Period¹⁶

The author explains how he set up a vegetable garden on his terrace during self-isolation. He explains: "People are facing uncertain and difficult times in the face of the COVID-19 pandemic. The benefits of plants ³/₄ psychological, health, economic, productive) ³/₄in this period of forced isolation can be of key importance. If many of us have to self-isolate in urban or suburban



environments, we need something to do to keep our bodies and minds active and fed. In such a challenging scenario, a vegetable garden in home spaces can bring recreational, health, economic and environmental benefits. Regardless of the COVID-19 pandemic, there is untapped potential for this kind of garden to impact environmental outcomes, public awareness, and market trends. Home vegetable gardens could provide a small-scale approach to the sustainable use of natural resources, leading toward self-sufficiency, self-regulation, sustainability, and environmental protection".

Fortuné et al (14 May 2020) Protocol for a Partially Nested Randomised Controlled Trial to Evaluate the Effectiveness of the Scleroderma Patient-Centred Intervention Network COVID-19 Home-Isolation Activities Together (SPIN-CHAT) Program to Reduce Anxiety Among At-Risk Scleroderma Patients¹⁷

The SPIN-CHAT Trial is a pragmatic RCT that will be conducted using the SPIN-COVID-19 cohort, a sub-cohort of the SPIN cohort. Eligible participants will be SPIN-COVID-19 cohort participants without a positive COVID-19 test, with at least mild anxiety (PROMIS Anxiety 4a v1.0 T-score ≥ 55), not working from home, and not receiving current counselling or psychotherapy. We will randomly assign 162 participants to intervention groups of 7 to 10 participants each or waitlist control. We will use a partially nested RCT design to reflect dependence between individuals in training groups but not in the waitlist control. The SPIN-CHAT Program includes activity engagement, education on strategies to support mental health, and mutual participant support. Intervention participants will receive the 4-week, 3 sessions per week SPIN-CHAT Program via videoconference. The primary outcome is PROMIS Anxiety 4a score immediately post-intervention.

Thabrew et al (15 August 2018) E-Health Interventions for Anxiety and Depression in Children and Adolescents with Long-Term Physical Conditions¹⁸

Long-term physical conditions affect 10% to 12% of children and adolescents worldwide; these individuals are at greater risk of developing psychological problems, particularly anxiety and depression. Access to face-to-face treatment for such problems is often limited, and available interventions usually have not been tested with this population. As technology improves, e-health interventions ranging from simple text-based programmes through to multimedia and interactive programmes,



serious games, virtual reality and biofeedback programmes offer a potential solution to address the psychological needs of this group of young people.

Finlay-Jones et al (28 Jan 2020) Online Self-Compassion Training to Improve the Wellbeing of Youth with Chronic Medical Conditions: Protocol for a Randomised Control Trial¹⁹

Chronic medical conditions (CMCs) affect up to 35% of children and adolescents. Youth with chronic medical conditions are at an increased risk of psychological distress and reduced health-related quality of life, and report rates of mental illness up to double that of their physically healthy peers. Accessible, evidence-based interventions for young people with chronic illness are urgently required to improve their mental health and daily functioning. Self-compassion involves taking a mindful, accepting approach to difficult experiences, being aware that one is not alone in one's suffering, and being kind and understanding with oneself during challenging times. Self-compassion shares strong associations with mental health outcomes among young people and preliminary work indicates that interventions that build self-compassion have the potential to substantially improve youth mental health. Self-compassion is also associated with better physical and mental health outcomes among individuals living with CMCs. While face-toface self-compassion training is available, there are several barriers to access for youth with CMCs. Online self-compassion training potentially offers an accessible alternative for this high-risk group.

<u>Viana and de Lira (4 May 2020) Exergames as Coping Strategies for</u> Anxiety Disorders During the COVID-19 Quarantine Period²⁰

As most people do not have access to exercise facilities during this quarantine period, exergames can be considered a useful tool for coping with anxiety. In addition, as people who suffer from high levels of anxiety can experience impaired quality of life, exergames could be an enjoyable way of overcoming common barriers to physical exercise during the current quarantine period. Exergames can easily be shared with peers and families in social isolation situations, and can be a tool for maintaining physical activity levels.

<u>Diamond and Willan (4 May 2020) Achieving Good Mental Health during COVID-19 Social Isolation²¹</u>

Governments have recognised that self-isolation has its own risks, including those of loneliness and deterioration of mental health, even in those without



pre-existing mental health problems. Redundancy, furloughing or an inability to work as well as the associated financial issues and changes in family dynamics can exacerbate the problem. The consequences for people with severe mental health problems who are three times more likely to have a physical health problem than those in the general population may be even more significant. Never has the connection between physical and mental health been so important or relevant. In an attempt to improve personal well-being both for those with and without mental health problems, a set of evidence-based actions have previously been developed. The 'Five Ways to Wellbeing' are a simple set of practical actions that can be performed daily: to learn, connect, take notice, give and be active.

We suggest ways in which all those who are self-isolating can attend to or perhaps even improve their mental and physical well-being under these most unusual of circumstances.

Umucu et al (14 May 2020) Examining the impact of COVID-19 on stress and coping strategies in individuals with disabilities and chronic conditions²²

A cross-sectional study with a total of 269 individuals with self-reported disability or a chronic condition. The aim of the study was to describe perceived stress levels and coping mechanisms relating to COVID-19. Results showed that active coping, denial, use of emotional support, humour, religion and self-blame were associated with participants' well-being. Expectedly, participants who had high ratings on active coping, use of emotional support, humour and religion and low ratings on self-blame were found to have high ratings on well-being.

The authors concluded that this was an exploratory study with limitations. The aim was to examine how COVID-19 affects stress, coping strategies and well-being in people with disability/chronic conditions. "Our findings suggest that measuring and quantifying COVID-19 related stress and coping strategies in individuals with chronic conditions and disabilities, can help clinicians and researchers understand potential negative effects of COVID-19 among people with chronic conditions and disabilities."

Bäuerle et al (20 April 2020) [Letter] Psychological support in times of COVID-19: the Essen community-based CoPE concept²³

A report of a structured concept to support psychological burdened people in Essen, Ruhr area, an area with 5.1 million inhabitants in the heart of the federal state North Rhine Westphalia, Germany.



Coping with Corona: Extended Psychosomatic care in Essen (CoPE) comprises telephone and videoconferencing calls with experts as well as web content and online interventions. CoPE is an integrated part of the community emergency action plan and includes a stepped procedure of assessment, indication, counselling and intervention. The initial contact point is the corona specific hotline of the community of Essen ('Bürgertelefon') where citizens can get information about virus specific topics or express COVID-19-related burdens. If the latter applies, medical assistants will do further psychological diagnostics ³/₄ phone-based 'CoPE hotline' ³/₄ in order to distinguish the need and appropriate intervention. After triaging by the medical assistants, the citizen is directed to the required clinical expertise. The telephone and videoconferencing calls compromise a semi-structured interview and individual needs-based content: ie the activation of resources, relaxing techniques and support in social law.

Matias et al (6 May 2020) Human needs in COVID-19 isolation²⁴

The authors discuss the importance of physical activity as a fundamental tool for self-care and a means of coping with the detrimental impact of COVID-19 and social distancing.

"Exercising at home, in a crisis situation, can be performed without self-criticism, which may provide adaptive coping, problem-solving and psychological well-being. Research has provided empirical evidence on the positive relationship between self-compassion and exercise, providing exercise maintenance and enhancing positive emotions."

Razai et al (21 May 2020) Mitigating the psychological effects of social isolation during the COVID-19 pandemic²⁵

Evidence from previous infectious outbreaks and pandemics demonstrates the deleterious mental health and psychological effects of social isolation. For example, high psychological distress was reported by 34% of quarantined horse owners during equine influenza outbreak compared with 12% in the general population. After the 2009 influenza A (H1N1) pandemic in the US, post-traumatic stress scores were four times higher in quarantined children than in those who were not quarantined, and 28% of quarantined parents reported symptoms of trauma related mental health disorders compared with 6% of parents not quarantined.

Anxiety, low mood, stress, fear, frustration and boredom may be precipitated by COVID-19 and its consequences, including restriction of movement, loss of social connections and employment, and loss of financial income. The





authors also describe telephone or video consultations which are effective for providing support.

Smith et al (18 March 2020) Coping with life in isolation and confinement during the COVID-19 pandemic²⁶

The authors summarise their findings from research carried out into populations who live in extreme isolation and how they respond to stressors.

OTHER

NHS Scotland (2020) [Leaflet] Tips on how to cope if you are worried about Coronavirus and in isolation²⁷

Information, tips, apps and websites on how to cope with difficulties associated with self-isolation.

<u>European Public Health Alliance (31 March 2020) [Webpage] The dangers of social isolation during a pandemic²⁸</u>

A webpage discussing the effects of social isolation which include loneliness, anxiety, apathy, stress and depression; and interventions including the use of technology.

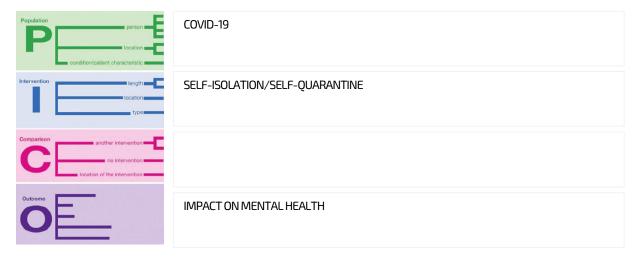
Kocyigit et al (23 May 2020) YouTube as a Source of Information on COVID-19 and Rheumatic Disease Link²⁹

Patients with rheumatic disease may have higher levels of COCID-19-related anxiety due to disease characteristics and medications. YouTube presents a wide range of medical information, but there are concerns about its quality. We aimed to evaluate the quality of the YouTube videos about COVID-19 and rheumatic diseases.



Produced by the members of the National Health Library and Knowledge Service Evidence Team[†]. Current as at 29 May 2020. This evidence summary collates the best available evidence at the time of writing and **does not replace clinical judgement or guidance**. Emerging literature or subsequent developments in respect of COVID-19 may require amendment to the information or sources listed in the document. Although all reasonable care has been taken in the compilation of content, the National Health Library and Knowledge Service Evidence Team makes no representations or warranties expressed or implied as to the accuracy or suitability of the information or sources listed in the document. This evidence summary is the property of the National Health Library and Knowledge Service and subsequent re-use or distribution in whole or in part should include acknowledgement of the service.

The following PICO(T) was used as a basis for the evidence summary:



The following search strategy was used:

PUBMED (ABBREVIATED)

#1 2019-NCOV OR 2019NCOV OR COVID-19 OR SARS-COV-2 OR ((WUHAN AND CORONAVIRUS)

#2 Self-Isolation or Self-Isolation or Home-Isolated or Home-Isolation or Social distancing or Physical distancing or Self-Quarantine or Cocoon\$

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National Health Library and Knowledge Service | Evidence Team









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