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DAWKES, S.

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Supporting mental health in people with cardiovascular disease.

Susan Dawkes

Robert Gordon University, Aberdeen, Scotland.

Correspondence to: s.dawkes@rgu.ac.uk

Having good health is not just about the absence of physical disease or infirmity—but also the necessity to have good social and mental wellbeing (World Health Organization, 1948). Sadly, mental ill health is a global problem affecting many people, including a significant number with cardiovascular disease. In 2017, nearly 800 million people were living with a mental health disorder and, proportionately, it affects slightly more females than males (11.9% vs 9.3%) (Dattani et al, 2021). Almost one in three people are affected by a mental health condition at some point in their lifetime (Nochaiwong et al, 2021). This places a huge burden on those it affects; one in five people are living with a disability caused by the mental ill health (Dattani et al, 2021).

There is growing evidence that mental health conditions are closely linked with cardiovascular disease. This is multifaceted. Firstly, there is already substantial evidence that people who have a cardiac event (e.g. myocardial infarction, coronary intervention) have a higher incidence of anxiety and depression afterwards when compared with the wider population (Jha et al, 2019). Also, those with atrial fibrillation and heart failure have somewhere between a two- and five-fold increased risk of suffering anxiety and depression (Dregan et al, 2020). These mental health conditions can develop after an acute event and often stem from feelings such as fear (e.g. of dying, of recurring pain), vulnerability, sadness, hopelessness and a sense of losing control over one's health and wellbeing. Experiencing depression or anxiety after a cardiac event increases patients' risk of having a subsequent event or even of premature death (Murphy et al, 2020). Indeed, there is a risk that patients can develop post-traumatic stress disorder (PTSD) following an acute cardiac event and this not only has an impact upon a person's quality of life by causing significant suffering, it also affects morbidity and mortality (Jacquet-Smailovic et al, 2021). It is essential then to ensure early identification and treatment are available.

Another way that cardiovascular disease and mental health conditions are connected is that when people experience anxiety, stress, depression and/or PTSD, it causes particular physiological changes in the body (e.g. increase in heart rate/blood pressure, a reduction in coronary blood flow and an increase in cortisol). If a person experiences a mental health condition over a period of time, the physiological features can increase the risk of heart and metabolic disease (Bremner et al, 2018; Jacob et al, 2018). Again, early identification and intervention, if required, are beneficial to lessening risk. Additionally, it is known that those who are affected by a mental health condition are more likely to adopt lifestyle behaviours that increase their risk of developing cardiovascular disease. For instance, they are more likely to smoke tobacco, not take the recommended amount of exercise or physical activity, and they may adopt a diet high in sugar and fats (Abed et al, 2014).

With all of this in mind, it seems that the connection between mental health and cardiovascular disease is significant. Worryingly, the COVID-19 pandemic has increased the prevalence of mental health disorders even further. Currently, in the general population, 28% of people now have depression, 27% have anxiety, 37% are experiencing stress and 50% psychological distress (Nochaiwong et al, 2021). The prevalence differs across the world and seems to relate to the restrictions imposed to reduce the spread of the virus and the associated consequences of these (e.g. unemployment, loneliness, social isolation) (Bucciarelli et al, 2022). Data for those with established cardiovascular disease are less clear with regards to whether the prevalence of mental health disorders has also increased in this population during the pandemic. Unfortunately, COVID-19, cardiovascular disease and mental health conditions seem to deleteriously affect each other and this increases patients' risk of worsening health (Bucciarelli et al, 2022).

Providing adequate and effective support and treatment for anyone affected by a mental health issue is a huge concern for healthcare providers. Worryingly, more than 75% of people with a mental health problem do not seek help for it and are therefore missing out on vital support and treatment (Subramanian et al, 2019).

How can we recognise mental health conditions?

People naturally experience challenges in their lives and it is normal at times for anyone to feel down, worried or anxious. However, if these feelings do not go away, it may be a mental health condition that could benefit from support and treatment. It is essential to recognise and identify the symptoms associated with mental health conditions to allow early diagnosis and intervention where required. Symptoms include:

- Low mood (feeling sad or empty)
- Loss of interest in things previously enjoyed
- Reduced concentration (or difficulty concentrating)
- Feelings of hopelessness/helplessness/worthlessness
- Changes to sleep pattern (not being able to sleep or sleeping too much)
- Feeling anxious or worried all of the time
- Feeling fatigued
- Having severe panic or intense fear
- Suicidal thoughts.

The important thing is that if people do experience any of these symptoms, they should not ignore them but instead seek help and support from family and friends, as well as from health professionals. Although some people may still feel reluctant to seek support—perhaps due to a perceived stigma associated with mental health conditions—encouragingly, more and more people are reaching out for help (Holder et al, 2019).

What can people do to enhance their mental health?

For a healthy mind as well as a healthy heart, it is important for individuals to find ways to effectively cope with the everyday stresses of life. For those trying to maintain good mental health, there are several things that can help. For example, people should try to exercise regularly. Exercise causes the release of endorphins which will make a person feel happier and block feelings of pain (Chekroud et al, 2018). If people can, they should try to increase activities that make them happy and, if possible, avoid or lessen the things that may be causing anxiety.

If people experience the aforementioned symptoms for a prolonged period of time, there are ways in which they can self-manage their mental health condition. The person needs to understand/identify the stressors that affect their mental health and find effective ways to manage them. They can speak with family or friends and share their thoughts and feelings, which may allow for adequate support to be given. Taking on too much should also be avoided. Tasks may be broken into smaller, more manageable chunks and goals set should be achievable. Completing the small chunks will provide a sense of achievement. Having a mental health condition may cause people to eat more unhealthily, take more alcohol or smoke more cigarettes but, again, a person should be encouraged to try to avoid these things or be encouraged to slowly return to more healthy behaviours (Fusar-Poli et al, 2020). Meditation, yoga or Tai Chi may also be helpful in getting people to relax and help them cope with the stresses of everyday life (Jones et al, 2020).

Support from health professionals

Many people may be able to self-manage and maintain good mental health but others may need the help and support of a health professional, such as their family doctor or cardiac rehabilitation specialist (Centres for Disease Control and Prevention, 2020).

The health professional should conduct a comprehensive, patient-centred, holistic psychosocial assessment to determine how the person is affected by their mental health (Dregan et al, 2020). Essentially, screening should be conducted of the person's psychological/psychosocial/sexual health and wellbeing. The assessment should attempt to identify any psychological distress/PTSD, what the person's psychological stressors are and any coping strategies that have been attempted, as well as whether there is any evidence of alcohol/substance misuse or not.

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As a minimum, the components of assessment should include (Jones et al, 2020):

- Mood, distress and emotional state
- Quality of life
- Health beliefs, beliefs about cardiovascular disease and its consequences
- Impact of cardiac experience to date
- Historical adaptation to illness
- Perceptions of family relationships and social support
- Desire to attend cardiac rehabilitation and reasons for attending
- Medication adherence.

This assessment will include the use of a screening tool to help guide the health professional's clinical judgement and decision-making regarding diagnosis and the need for intervention or treatment. There are a number of screening tools but the commonly used ones are (Scottish Intercollegiate Guidelines Network, 2017; Visseren et al, 2021):

- Patient Health Questionnaire-9 (PHQ-9)
- Generalised Anxiety Disorder-7 (GAD-7)
- Beck Depression Inventory-II (BDI-II)
- Hospital Anxiety and Depression Scale (HADS)
- Dartmouth COOP Charts
- Minnesota Living with Heart Failure (MLWHF).

Even with the use of screening tools and a comprehensive assessment, it can be difficult for health professionals to figure out the true cause of some symptoms. For example, in the case of lethargy, it may be caused by the heart condition itself, the medication prescribed or it may be a symptom of the mental health condition. A one-off assessment may not be enough in these cases and the health professional may need more than one consultation with the person until a diagnosis can be reached.

It is suggested that health professionals have knowledge of how to conduct a psychological assessment, and have the knowledge as well as the skills to effectively deliver comprehensive psychological therapy (Jones et al, 2020). Some people may have quite complex mental health conditions and so it is not appropriate for all health professionals to possess the same depth of knowledge and advanced skills in treating or supporting those affected by all mental health disorders. A 'stepped-care model' is advocated by the Scottish Intercollegiate Guidelines Network (2017) where those with more complex disorders requiring specialist care are assessed and supported/treated by appropriately skilled mental health professionals. Others with less severe or complex mental health conditions should be treated by an 'appropriately trained' health professional. Appropriate training is considered as being taught to deliver psychological therapies by a specialist (NHS Education for Scotland, 2021). There is an example of this stepped-care approach in Table 1 indicating what intervention is required for those with depression and the most appropriate health professional to deliver that (Scottish Intercollegiate Guidelines Network, 2017).

Even after receiving psychological therapy training, health professionals still lack knowledge, skills and particularly confidence to effectively assess and support or treat a person experiencing mental ill health (Bagayogo et al, 2018). Therefore, more is needed to effectively prepare nurses and other health professionals for this. It is important to be aware of one's limitations in supporting people with mental health conditions and when it is appropriate to refer a person on to a specialist (e.g. for stage 3 or 4 of the stepped-care approach). That said, health professionals such as psychologists with specialist knowledge to treat those with the most severe and complex disease are not available in every healthcare team (Abreu et al, 2019; Supervia et al, 2019; Turk-Adawi et al, 2019). The ability to refer on to such specialists may be possible, however waiting times can be lengthy.

The preparedness of health professionals to support people with a mental health condition is one possible barrier to the person receiving effective help and support. Another is a potential lack of time available to health professionals to conduct comprehensive, patient-centred, holistic psychosocial assessments (Turner et al, 2017). Providing group-based approaches may lessen the resource needed to support patient care but patients' needs assessments should still be done on an individual basis.

More needs to be done to adequately prepare nurses and other health professionals who are not specialised in providing mental health treatments to enable them to effectively support patients. Whether more should be done pre or post-professional registration needs to be considered.

Conclusions

Mental health conditions are very common and the link between these and cardiovascular disease is significant. While people can do a lot to have and maintain good mental health, some adopt coping strategies which themselves heighten the risk of cardiovascular disease. It is essential that those suffering from prolonged symptoms associated with mental health disorders seek help from family and friends, as well as, if necessary, health professionals. Unfortunately, the stigma of mental health remains and many people do not seek this essential support. If required though, health professionals should be able to effectively conduct an assessment of a person's mental health as part of a holistic, person-centred assessment and then either provide support/treatment or refer on to more specialist services. The preparedness of health professionals to undertake the mental health assessment and subsequently provide care is questionable and efforts to address this need to be explored to ensure that the many people affected by mental health conditions are given appropriate and effective help and support.

Table 1. Stepped-care approach		
Steps indicative of mental health disorder severity	Intervention	Professional input
Step 1 – suspected depression/ confirmed diagnosis of depression	Comprehensive assessment, support from health professional, education, monitoring of condition, referral for further assessment of intervention	Care delivered by appropriately trained health professional
Step 2 – prolonged symptoms of depression. Mild-to-moderate depression	Low-intensity psychosocial interventions, medication, referral for further assessment of intervention	Care delivered by appropriately trained health professional
Step 3 - prolonged symptoms of depression. Moderate-to-severe depression. Initial interventions	High-intensity psychosocial interventions, medication, combined treatments, multidisciplinary care, referral for further assessment of intervention	Care delivered by accredited MH professionals
Severe and complex depression, severe self-neglect, suicidal risk	High-intensity psychosocial interventions, medication, combined treatments, multidisciplinary care, inpatient care	Care delivered by accredited MH professionals
Adapted from: Scottish Intercollegiate Guidelines Network, 2017. MH: mental health		

References

- Abed M, Kloub M, Moser D. Anxiety and adverse health outcomes among cardiac patients. *J Cardiovasc Nurs*. 2014;29(4):354–363. <https://doi.org/10.1097/JCN.0b013e318292b235>
- Abreu A, Pesah E, Supervia M, on behalf of the Global CR Program Survey Investigators et al. Cardiac rehabilitation availability and delivery in Europe: how does it differ by region and compare with other high-income countries? *Eur J Prev Cardiol*. 2019;26(11):1131–1146. <https://doi.org/10.1177/2047487319827453>
- Bagayogo I, Turcios-Wiswe K, Taku K, Peccoraro L, Katz C. Providing mental health services in the primary care setting. *Psychiatr Q*. 2018;89(4):897–908. <https://doi.org/10.1007/s11126-018-9587-2>
- Bremner J, Campanella C, Khan Z et al. Brain correlates of mental stress-induced myocardial ischaemia. *Psychosom Med*. 2018;80(6):515–525. <https://doi.org/10.1097/PSY.0000000000000597>
- Bucciarelli V, Nasi M, Bianco F et al. Depression pandemic and cardiovascular risk in the COVID-19 era and long COVID syndrome. *Trends Cardiovasc Med*. 2022;32(1):12–17. <https://doi.org/10.1016/j.tcm.2021.09.009>
- Centres for Disease Control and Prevention. Heart disease and mental health disorders. 2020. <https://www.cdc.gov/heartdisease/mentalhealth.htm> (accessed 17 March 2022)
- Chekroud SR, Gueorguieva R, Zheutlin AB et al. Association between physical exercise and mental health in 1.2 million individuals in the USA between 2011 and 2015: a cross-sectional study. *Lancet Psychiatr*. 2018;5(9):739–746. [https://doi.org/10.1016/S2215-0366\(18\)30227-X](https://doi.org/10.1016/S2215-0366(18)30227-X)
- Dattani S, Ritchie H, Roser M. Mental health. 2021. <https://ourworldindata.org/mental-health> (accessed 17 March 2022)
- Dregan A, Rayner L, Davis K et al. Associations between depression, arterial stiffness and metabolic syndrome among adults in the UK Biobank Population Study. *J Am Med Assoc*. 2020;77(6):598–606. <https://doi.org/10.1001/jamapsychiatry.2019.4712>
- Fusar-Poli P, de Pablo G, De Micheli A et al. What is good mental health? A scoping review. *Eur Neuropsychopharmacol*. 2020, 31:33–46. <https://doi.org/10.1016/j.euroneuro.2019.12.105>
- Holder S, Peterson E, Stephens R, Crandall L. Stigma in mental health at the macro and micro levels: implications for mental health consumers and professionals. *Community Ment Health J*. 2019;55(3):369–374. <https://doi.org/10.1007/s10597-018-0308-y>
- Jacob L, Haro J, Koyanagi A. Post-traumatic stress symptoms are associated with physical multimorbidity. *J Affect Disord*. 2018;232: 385–392. <https://doi.org/10.1016/j.jad.2018.02.063>
- Jacquet-Smailovic M, Tarquinio C, Alla F et al. Post traumatic stress disorder following myocardial infarction. *J Traumatic Stress*. 2021; 34(1):190–199. <https://doi.org/10.1002/jts.22591>
- Jha M, Qamar A, Vaduganathan M, Charney D, Murrough J. Screening and management of depression in patients with cardiovascular disease. *J Am Coll Cardiol*. 2019;73(14):1827–1845. <https://doi.org/10.1016/j.jacc.2019.01.041>
- Jones J, Buckley J, Furze G, Sheppard G. Cardiovascular prevention and rehabilitation in practice. Oxford, Wiley Blackwell; 2020.

- Murphy B, Le Grande M, Alvarenga M, Worcester M, Jackson A. Anxiety and depression after a cardiac event. *Front Psychol.* 2020;10(10):3010. <https://doi.org/10.3389/fpsyg.2019.0301>
- NHS Education for Scotland. The Matrix. A guide to delivering evidence-based psychological therapies in Scotland. 2021. <https://www.nes.scot.nhs.uk/our-work/matrix-a-guide-to-delivering-evidence-based-psychological-therapies-in-scotland/> (accessed 17 March 2022)
- Nochaiwong S, Ruengorn C, Thavorn K et al. Global prevalence of mental health issues among the general population during the coronavirus disease 2019 pandemic. *Nature.* 2021;11:10173. <https://doi.org/10.1038/s41509-021-89700-8>
- Scottish Intercollegiate Guidelines Network. Cardiac Rehabilitation. Edinburgh SIGN; 2017 Subramaniam M, Abdin E, Vaingankar JA et al. Tracking the mental health of a nation: prevalence and correlates of mental disorders in the second Singapore mental health study. *Epidemiol Psychiatr Sci.* 2019;29:e29. <https://doi.org/10.1017/S2045796019000179>
- Supervia M, Turk-Adawi K, Lopez-Jimenez F et al. Nature of cardiac rehabilitation around the globe. *E Clin Med.* 2019;13:46–56. <https://doi.org/10.1016/j.eclinm.2019.06.006>
- Turk-Adawi K, Supervia M, Lopez-Jimenez F et al. Cardiac rehabilitation availability and density around the globe. *E Clin Med.* 2019;13:31–45. <https://doi.org/10.1016/j.eclinm.2019.06.007>
- Turner K, Winder R, Campbell J et al. Patients' and nurses' views on providing psychological support within cardiac rehabilitation programmes. *Br Med J Open.* 2017;7(9):e017510. <https://doi.org/10.1136/bmjopen-2017-017510>
- Visseren F, Mach F, Smulders Y, Carballo D, ESC Scientific Document Group et al 2021 ESC Guidelines on cardiovascular disease in clinical practice. *Eur Heart J.* 2021;42(34):3227–3337. <https://doi.org/10.1093/eurheart/ehab484>
- World Health Organization. Constitution. 1948. <https://www.who.int/about/governance/constitution> (accessed 17 March 2022)