Novel use of psychedelics for heart disease and mental health

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There is an increasing interest from the medical and psychiatric fields in the properties of psychedelic drugs to treat mental and physical illness. Most recently, Simonsson et al (2021) explored the associations between lifetime classic psychedelic use and cardiometabolic diseases, with both heart disease and diabetes being leading contributors to the global burden of disease—and a leading cause of death in the Western world.

Simonsson et al (2021) acknowledged that pharmacological treatment and/or intensive lifestyle modification can delay or reverse the development of cardiometabolic diseases. However, they noted that no study thus far has investigated the long-term cardiometabolic effects of classic psychedelics. They suggest that, if found to be beneficial, psychedelics could be used as a possible pharmacological treatment and as part of a programme to facilitate healthy lifestyle changes.

The researchers described the evidence to date, suggesting that 'classic psychedelics' (psychoactive substances known to act as agonists primarily at serotonin 2A receptors) have a good risk profile and can be effective in the treatment of various mental health conditions. Yet, recent research indicates that classic psychedelics could show a beneficial effect for a range of physical conditions as well, such as heart disease and diabetes (Simonsson et al, 2021).

For instance, classic psychedelics may facilitate healthy lifestyle changes associated with a beneficial impact on cardiometabolic risk factors, such as diet, alcohol and tobacco use, as well as exercise. The byproduct of treating a mental health condition with this type of drug is that cardiometabolic health associated with the mental health condition may improve as the person's mental state improves.

Simonsson et al (2021) reported that classic psychedelics may have anti-inflammatory and immunomodulatory properties of importance for both mental and cardiometabolic health, and that classic psychedelics have a high affinity to serotonin receptor subtypes associated with cardiometabolic diseases (e.g. serotonin 2A and 2C receptors). This means that classic psychedelics may have direct and indirect effects leading to improved cardiometabolic health. Other factors associated with heart disease and diabetes are obesity and hypertension—these may be lower in those who use classic psychedelics over their lifetime.

Therefore, Simonsson et al (2021) researched the topic to assess the associations between lifetime classic psychedelic use, heart disease and diabetes, predicting that lifetime classic psychedelic use would be linked with lower odds of both heart disease and/or diabetes in the past year.

The research used data from the National Survey on Drug Use and Health, between 2005 and 2014. The focus was any association between the drugs (e.g. tryptamine, phenethylamine and lysergic acid diethylamide (LSD)) and heart disease and diabetes. Participants who said they had tried a classic psychedelic at least once in their lifetime were observed to have lower odds of heart disease over the past year, as well as lower odds of diabetes in the past year. Classic psychedelic use was observed to have a possible positive effect on cardiometabolic health; however, further research would be required to investigate the potential causal pathways of classic psychedelics on cardiometabolic diseases, as these remain unknown. Nonetheless, the association itself can form the basis of a more complex investigation into these pathways, which may benefit drug development targeted at cardiometabolic disease involving novel use of this type of drug.

The study clearly demonstrates the need for further research to investigate potential causal pathways of classic psychedelics on cardiometabolic health. Causal pathways requiring investigation would include lifestyle changes, mental health benefits, anti-inflammatory and immunomodulatory characteristics and affinity to specific serotonin receptor subtypes. This study is an interesting exploration of the unknown and may prove be the start of a promising treatment method for some of the biggest killers in the world.

It is also important to consider ethics when it comes to the attempted use of and research into mind-altering drugs that are considered illegal. The Journal of Medical Ethics published an article acknowledging that research on psychedelic-assisted psychotherapy has shown promising results with many psychiatric conditions. According to Miceli McMillan (2020), psychedelic-assisted psychotherapy is therapeutic because it enhances perception of meaning and leads to a meaning response (a therapeutic mechanism that has been explored throughout philosophical literature regarding the placebo effect). The mechanism of action of psychedelics as meaning enhancers raises ethical questions as to whether it is justifiable to pharmacologically increase the perception of meaning to heal patients. Miceli McMillan

(2020) argued that it is possible that psychedelic states of consciousness do not represent a necessarily false reality, just one that is different to current perception. It may exist but can only be accessed through psychedelic use.

Despite the ethical considerations, the use of such drugs as treatment for mental and physical illness may be beneficial if this is proven with further research that explores causal pathways; for example, in the mitigating factors, the drug seems to present in lowering risk of cardiometabolic disease. Several of the factors explored relate to the fact that someone using such treatment would benefit mentally, and therefore may tend to look after themselves better with exercise and a lower intake of alcohol and smoking, which would in turn benefit the heart and reduce heart disease and diabetes. Developments are ongoing and will be of interest for community health professionals to follow. **BJCN**

Miceli McMillan R. Prescribing meaning: hedonistic perspectives on the therapeutic use of psychedelic-assisted meaning enhancement. J Med Ethics. 2020. https://doi.org/10.1136/medethics-2020-106619

Simonsson O, Osika W, Carhart-Harris R et al. Associations between lifetime classic psychedelic use and cardiometabolic diseases. Sci Rep. 2021;11:14427. https://doi.org/10.1038/s41598-021-93787-4