

One step closer to personalised prescribing of antidepressants: using real-world data together with patients and clinicians' preferences

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Antidepressants for many decades have been shown to be an effective treatment for depressive disorder.¹ Approximately 80% of people with depressive disorder in the UK will have been prescribed an antidepressant within the first year following diagnosis.² Indeed, about 71 million prescriptions for antidepressants were issued in the UK in 2018—nearly twice as many as the previous decade.³ However, there remain important questions around the tolerability of antidepressant medication. It is well recognised that the side effects of antidepressants can be extremely debilitating and that unwanted symptoms associated with these medications are one of the main reasons for patients discontinuing treatment.⁴

There are many different antidepressant drugs available, recommended by guidelines, and thus commonly used in real-world clinical practice in patients with depressive disorder across the world. A large number of different side effects of antidepressant medication from different patient populations have been reported in randomised controlled trials.⁵ While we now have evidence from randomised trials informing us which specific side effects are experienced by patients taking antidepressants, and the frequency of these specific individual side effects, we have limited evidence from real-world patients as to which side effects they find least tolerable. In order to ensure the most appropriate antidepressant is prescribed, it is crucial that we identify and understand the most common side effects, and crucially which particular side effects have the greatest relevance to patients.

Antidepressant treatment is, for example, often associated with weight

gain, through mechanisms that are not fully understood.⁶ At the same time, obesity is associated with depression, and depression is particularly common in patients with severe obesity.⁷ Knowing this highlights how important it is to assess the potential impact of a given side effect on a particular patient and to acknowledge that the relevance of a side effect will vary from one patient to another.⁸

There are two possible approaches that can be taken to understand and rank/order side effects in terms of their preference and tolerability in patients. The first and most straightforward is to gather consensus from a number of experts in the field. The second is to gather data from large numbers of individuals with lived experience of using and prescribing antidepressants in the real world. Both are important but the latter, though more complex, represents a promising new approach that has the potential to bring together a wider community of researchers, patients and clinicians in improving patient outcomes.

The SUSANA survey is a step in this direction (Survey to Understand the Side effects of ANtidepressants in Adults). Designed with the intention to collect data from thousands of patients and prescribers, SUSANA will enable us to identify and rank the most common side effects of antidepressants, based on how troublesome and impairing they can be for patients in the real world (<https://oxford-healthbrc.nihr.ac.uk/susana-survey/>). Of course, it is important to note that there are important side effects, which are rare or less common (such as suicidality, withdrawal symptoms and numbness). These more serious side effects have not been included in the survey, as they are so relevant that it has been decided a priori to include them in the final analysis.⁹

Part of a large international project funded by the National Institute for Health Research (NIHR), SUSANA's strength lies in its potential to reach and gather responses from thousands of people internationally. It was created with input from academic

researchers across Europe, psychiatrists, psychologists, people with lived experience (patients, carers and patients' relatives) and social media experts, and made available in three different languages (English, French and German). The survey has also been supported by a range of online resources including writing blogs and podcasts and, in collaboration with the Mental Elf (<https://www.nationalelfservice.net/>), by a social media campaign run on twitter and other social platforms. Using social media in this way, particularly in the arena of mental health, has its own risks, but managing this is outweighed by the advantages it brings to take patient involvement and perspectives to a wider and more diverse audience. In support of this is research undertaken by the National Coordinating Centre for Public Engagement in 2017, producing a report suggesting, "that the use of social media for engagement by academics concentrates on peer-to-peer networking or on dissemination of results. That there is further potential to engage the public with research in mutually beneficial ways through social media is without doubt".¹⁰

To ensure antidepressant medications are used most effectively, and with the smallest negative impact on patients, there is an urgent need for a more personalised approach to prescribing this medication. The data collected in the SUSANA survey will bring us a step closer to this goal. At the same time, SUSANA provides those prescribing and being prescribed antidepressant medications a voice in developing an understanding of what matters the most in terms of side effects.

While there is ethical and methodological work to be undertaken around the way online projects such as SUSANA are structured, there is no doubt that they will grow in importance. Offering a valuable opportunity to gather powerful quantities of data, projects of this kind also foster trust and collaboration, enabling researchers and those with lived experience to work together towards a shared goal of improving patient outcomes.

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