crucial, because without such support, any possible positive effect associated with pharmacotherapy could be overwhelmed by personal and environmental challenges faced by many women. Finally, the issue of possible unintended consequences (positive or negative) of the provision of progesterone to post-partum women needs further exploration, particularly with respect to changes in maternal behaviour and aggression.

Yonkers and colleagues suggest that future research should focus on possible mediators of the effect of progesterone. However, the immediate need is to identify the moderators of treatment success. "It is much more important to know what sort of a patient has a disease than what sort of disease a patient has", goes the quote oft attributed to William Osler from almost a century ago, emphasising the importance of knowing about patient characteristics. Gordon Paul, in the context of psychotherapy research, argued that what was important to know was: "What treatment, by whom, is most effective for this individual with that specific problem, and under which set of circumstances?" These lessons remain important for patient care and research. Future research needs to determine for which patients, in what treatment settings (eg, inpatient, outpatient), and with what treatment model (eg, comprehensive treatment, behavioural treatment only) progesterone could be effective. If such a population were identified, investigation of possible mediating factors could then be informative.

Yonkers and colleagues’ findings suggest that progesterone might prevent relapse in post-partum women who are cocaine-abstinent and reduce use in those who have used cocaine infrequently since giving birth. The possibility that such a drug treatment, pending results of larger, adequately powered studies, might become available for providers to support women in their recovery efforts is exciting and has implications for helping to keep families together. The contexts in which it should be given, as well as the dose, duration, and effects on maternal–child interactions, should be investigated in future studies.

No single study can answer all the questions that researchers and readers might want answered. Indeed, a well designed and well executed study might leave us with more questions, and no answers. However, if the questions that remain after a study allow future researchers to ask and answer better questions, then that study can be regarded as successful. By this yardstick, Yonkers and colleagues have moved research into the treatment of substance use forward—they are able to propose potentially important answers and to raise crucial questions. Their results provide promise for the treatment of post-partum women who use cocaine.

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Improving outcomes in social anxiety disorder

Social anxiety disorder is increasingly recognised as a highly prevalent and debilitating disorder, with huge costs in terms of personal distress of patients and economic costs to society. A substantial number of randomised controlled trials have examined the effects of treatments for social anxiety disorders, and although both psychological and pharmacological treatments are effective, there is still a lot we do not know.

The network meta-analysis of treatments for social anxiety disorders by Evan Mayo-Wilson and colleagues in The Lancet Psychiatry is an important next step in improving our knowledge about these treatments. With more than 100 trials and thousands of patients included, their study integrates the present knowledge of these treatments. The findings confirm that both psychological and pharmacological...
treatments are effective, and that the effects of these treatments are large. The effect sizes reported for individual cognitive–behavioural therapy (CBT) standardised mean difference –1·19, 95% credible interval –1·56 to –0·81 and selective serotonin-reuptake inhibitors and serotonin–norepinephrine reuptake inhibitors (–0·91, –1·23 to –0·60) correspond to a number-needed-to-treat of less than two compared with waitlist.\textsuperscript{3} The message that social anxiety disorder can often be treated successfully is important from a public health perspective, and would certainly be a good subject for an educational public campaign. Many patients with social anxiety disorder struggle to accept that they have a mental health problem and need help. Making these people aware that effective treatments exist is certainly important.

How can treatments of social anxiety disorders be further improved? One important issue is the long-term effects of treatment. In their meta-analysis, Mayo-Wilson and colleagues\textsuperscript{2} consider CBT to be the best initial treatment option, because its effects are well-maintained at follow-up, whereas selective serotonin-reuptake inhibitors and serotonin–norepinephrine reuptake inhibitors are known to be associated with high relapse rates.\textsuperscript{4,5} However, the long-term effects of treatments could not be included in this meta-analysis because the number of studies examining this was too small. For approval of drugs, only short-term evidence is needed. However, to really help patients and reduce their distress, long-term trials on drugs and psychotherapy are urgently needed.

Another issue that is important for further improvement of treatments is research on combined treatments. Only five trials examining combined treatment could be included in the meta-analysis by Mayo-Wilson. Although the outcomes of these studies showed numerically higher effect sizes for combined treatment versus their respective monotherapies, the effects were not significantly different; this finding might well be a matter of statistical power. In the specialty of depression, the outcomes of combined treatment have long been thought to equal those of either treatment alone. But as the number of trials increased over time, the additional benefits of combined treatment, albeit being small, became significant and clinically relevant.\textsuperscript{6,7} This finding has also been shown for panic disorders; combined treatment is superior to either pharmacotherapy or psychotherapy alone.\textsuperscript{6,8} Moreover, combined treatment is significantly more effective than pharmacotherapy alone in obsessive-compulsive disorder.\textsuperscript{6} More research comparing combined treatments with either treatment alone in social anxiety disorders is therefore needed, but a finding of even better effect sizes for combined treatments than for monotherapies would not come as a surprise.

Another interesting finding from the meta-analysis by Mayo-Wilson and colleagues\textsuperscript{2} is that psychological treatments can also be successfully applied as guided self-help or internet-based treatments. Although the effect of guided self-help compared with waitlist (standardised mean difference –0·86, 95% credible interval –1·36 to –0·36) was smaller than that of individual CBT (–1·19, –1·56 to –0·81), the difference was not significant (−0·32, −0·94 to 0·30), and the effects of guided self-help or internet-based treatments were large and significant. This finding is in line with previous findings of the effectiveness of internet-based self-help treatments for other mental disorders.\textsuperscript{9} The positive outcome of self-help might not improve the outcomes of treatments directly, but it certainly offers new possibilities to deliver effective treatments more easily to patients and to lower the threshold for seeking help. We think that individual CBT should remain the first-choice treatment, but patients with social anxiety disorders are reluctant to seek help from professionals. Therefore, patients might prefer to receive this help through a book or the internet, with only limited contact with a professional through email or telephone. This method might result in an increased number of patients receiving

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Mental health technologies and the needs of cultural groups

Behavioural intervention technologies use devices such as mobile phones, the internet, and sensors to affect behaviours and cognitions related to health, mental health, and wellness. Behavioural intervention technologies can be used for patient self-help, to support lay providers, or to promote communication between providers and patients. With more than 6 billion mobile phone subscriptions worldwide, these technologies offer great promise. However, to be effective, they must be designed to meet the needs of the diverse cultural groups that use them. Culture can be defined as the thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups. Interventions that respond to a culture’s needs and capabilities, and that appropriately harness available technologies, are more likely to result in the intended goals than are those that do not.

Culture can affect the way in which mental health problems are perceived and defined by the individual and community—eg, the extent to which mental health problems are perceived as somatic or emotional symptoms, or believed to be real or imagined. The level of stigmatisation of mental health problems varies widely across cultures. Culture also affects factors that might contribute to the design and use of behavioural intervention technologies. Symbols and colours can have different meanings across cultures and can suggest varying levels of risk or usability. For example, a shock symbol in the USA indicates danger to most, but it might have no meaning or indicate a winding road to people in Ghana or other countries. Such cultural factors, along with who the end-users are (patients, care providers, family, or community members) and what role they have in the intervention, should be considered in the design of a behavioural intervention technology, including how messaging is framed and how symbols and metaphors are used.

Behavioural intervention technologies are delivered in different ways, because of different capacities of the technological environment and variations in use patterns. For example, members of low-income ethnic minority communities in the USA use mobile phones to access the internet more frequently than do low-income white people, partly because broadband access is lower in minority communities. Thus, mobile interventions could be more useful than web-based interventions for these groups and populations. In some African countries, mobile phones are ubiquitous, but electricity and internet connectivity are not. Thus, applications for these communities should run natively on the phone or device, and not